



THE RHODESIAN
Agricultural Journal.

*Edited by the Director of Agriculture
assisted by
The Staff of the Agricultural Department.*

VOL. VI.—No. 6.]

AUGUST, 1909.

[5s. per annum.



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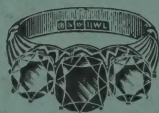
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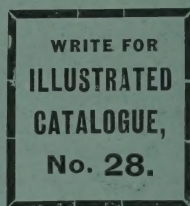
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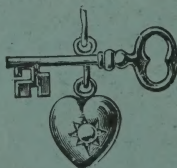
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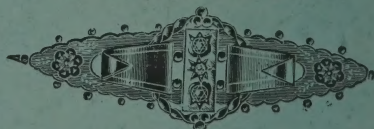
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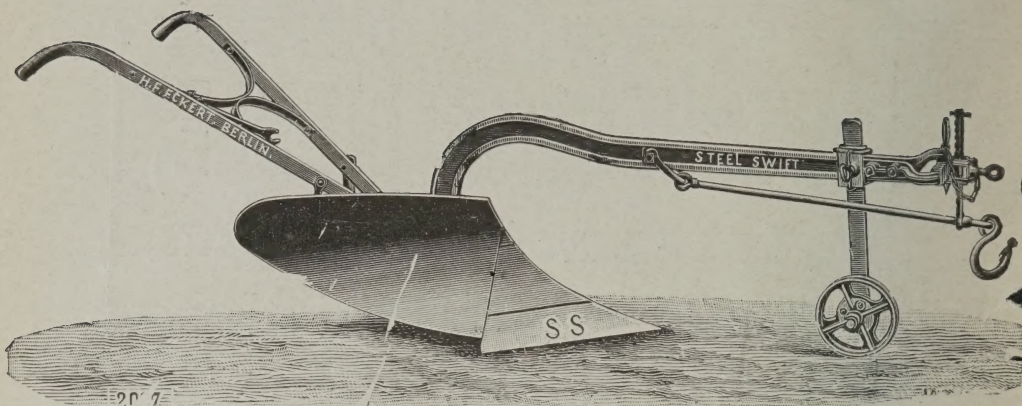
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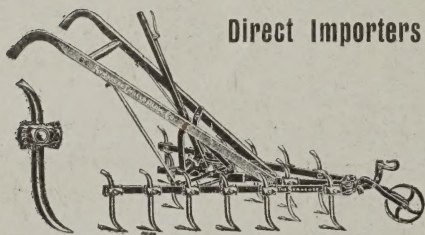
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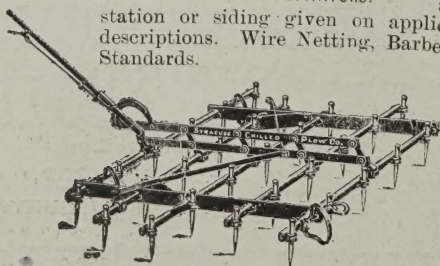
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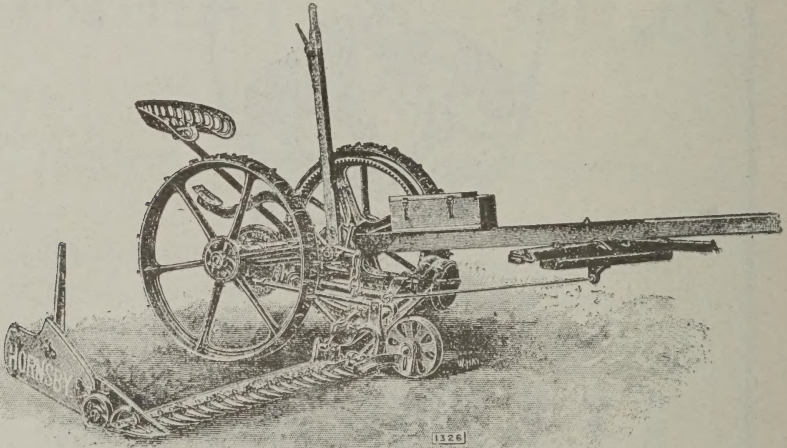
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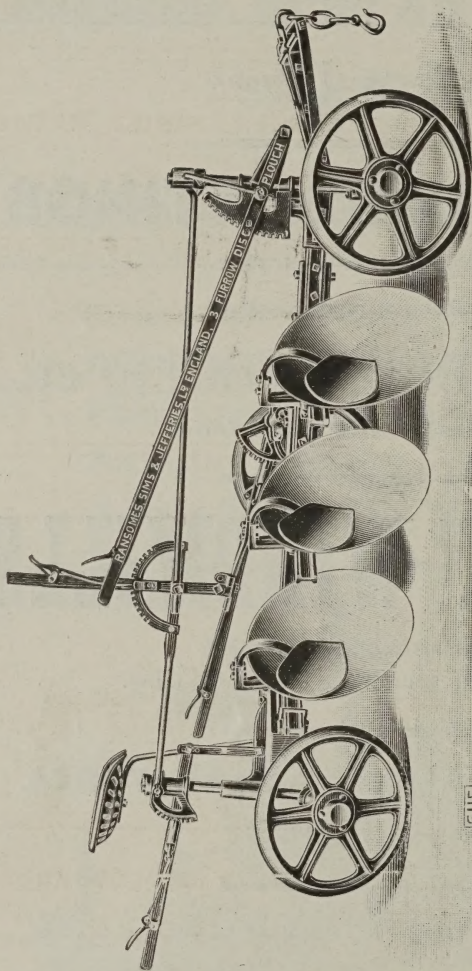
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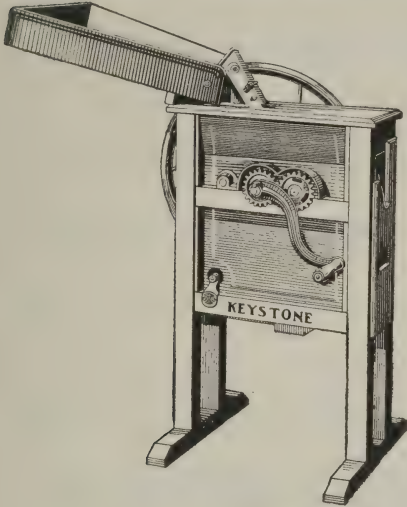
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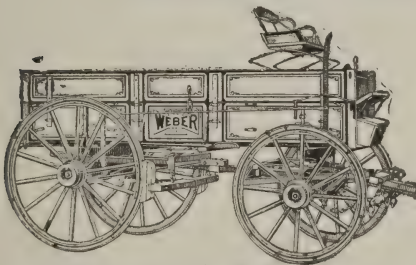
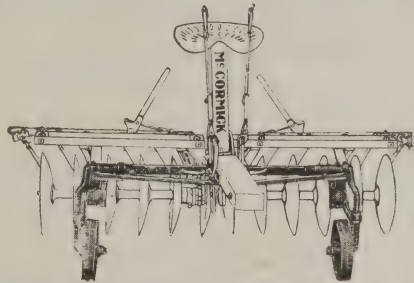
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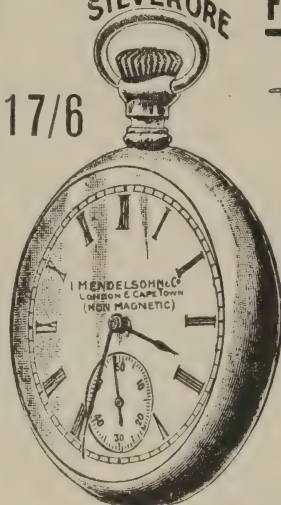
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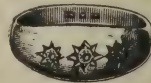
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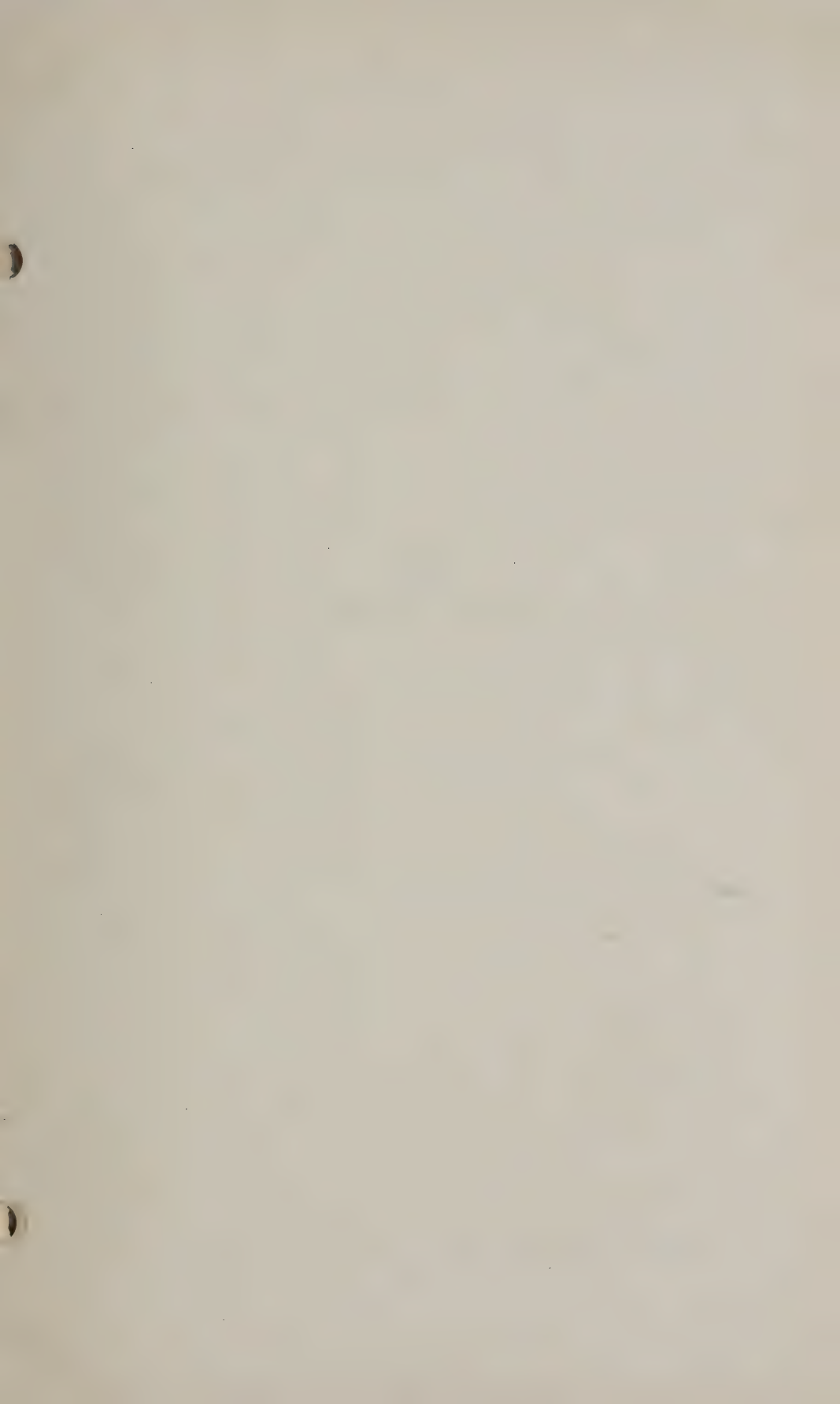




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The Rhodesian Agricultural Union. Congress at Salisbury, June, 1909.

[Strachan, Salisbury.



THE RHODESIAN AGRICULTURAL JOURNAL.

Edited by the Director of Agriculture.

Assisted by the Staff of the Agricultural Department.

VOL. VI.—No. 6.]

AUGUST, 1909.

[5s. per annum.

Editorial.

THE RHODESIAN AGRICULTURAL UNION.—The Annual Congress of the Rhodesian Agricultural Union met recently in Salisbury, and in the course of the debates and deliberations much valuable information was elicited which can in no other way gain expression, and several useful resolutions were passed. The range of subjects was very wide, and the divergence of opinion often equally so. The value of such healthy disputation, however, cannot be over estimated, nor the benefits which delegates from widely separated districts derive from meeting representatives from other parts, and realising their community of aims, or the grounds of their contrary views. It is trusted that these delegates in turn will communicate to the various far scattered associations the decisions of the Union, and that much good may be disseminated thereby. Next year in all probability the Union meets in Bulawayo when an equally strong muster is confidently anticipated. This dialectic Conference forms a fitting climax to the labours and revels of our three Agricultural Shows.

AGRICULTURAL LEGISLATION.—During the past session of the Legislative Council, three measures particularly affecting the agricultural community have become law. The first gives legal status to Agricultural Co-operative

Societies, and at the same time indicates the lines upon which such union may with advantage run. It is a noteworthy feature of the Co-operative movement in Southern Rhodesia that it has arisen and developed without need of Government doles, following in this respect on the lines of other countries, such as Germany, Italy and Denmark, where the movement started from small beginnings, and where it is now such an important feature of the national commerce. No doubt difficulties must and will arise especially at the outset, but the gratifying success that has followed the enterprise so far, should embolden other groups of farmers to unite for similar purposes, and in this they should be guided and assisted by the new Ordinance. A second measure is the application to this country of laws similar to those of the adjoining colonies for the prevention of the spread of insect and fungoid diseases by trees, plants and cuttings sent about the country, and particularly for the inspection of nurseries of fruit trees and other plants. We have long exercised care in inspecting such things when imported from other countries, but there is great need of treating locally grown produce with the same care and even greater suspicion, and provision for this has now been made.

Another Ordinance was also passed which especially aims at protecting apiarists from that insidious disease "Foul Brood," and those who are concerned in the importation of honey, beeswax or live bees, would do well to make themselves familiar with the conditions under which such articles will be admitted henceforth.

THE DEPARTMENT OF AGRICULTURE.—The technical strength of the Department has been augmented by the appointment of two specialists who have entered upon their duties, and farmers and others are invited to seek their assistance on subjects appertaining to their respective spheres.

Mr. H. G. Mundy is in charge of all matters connected with farm crops, and wild and cultivated plants and questions of farm management. Coming direct from similar work in the Transvaal Department of Agriculture, he is familiar with South African conditions, and is in a position to be of much service to the farming community.

Mr. R. Jack takes up the task of studying the insect pests of stock and crops and fruits, and has a wide field before him. Tsetse-fly, ticks, locusts, mealie grub, scale, and a host of other plagues come within his pervue, and having had seven years with Mr. Lounsbury, the Cape Government Entomologist, his experience and advice ought to be of a great value in Rhodesia.

RAILWAY RATES ON AGRICULTURAL PRODUCE.—We have pleasure in publishing the following announcement regarding rates for agricultural produce on the Lomagundi Branch Line, facilitating as it does the conveyance of smaller quantities than whole train loads or truck loads which the average farmer cannot load up at one time, and indicating a genuine effort to meet the farmers' requirements.

The notification states that from the 15th June, 1909, the special train charge of £2 10s. will be abolished, and the following produce rates will apply to Salisbury from the Lomagundi Branch:—Minimum rate, 4s. 6d. per ton, by special or ordinary train. When this rate applies the minimum of one ton for grain, meal, and all kinds of produce will be observed; but when the "distributing centre" rate of one-fourth third class rate exceeds 4s. 6d., the minimum of five tons for grain and meal, and one ton for all other produce will apply.

The rule as regards fractional rates is given in Clause 7 of the Local Tariff Book—fractions of a penny under a half-penny are dropped; half-penny and over are levelled up to the next penny. Consequently 4d., not 3½d. per 100 lbs., is the correct rate for small consignments.

It is also intimated that it has been decided to convey citrus fruits from Salisbury to Bulawayo at 2s. 5d. per hundred, plus cartage, subject to a minimum of 100 lbs. per consignment during the present citrus season.

TOBACCO CULTURE.—It is intimated that arrangements have been made whereby the services of the tobacco experts attached to the Commercial Branch of the B.S.A. Company shall be available for consultative purposes to farmers on questions connected with the culture and curing

of the leaf. As these officers are directly concerned with the grading and purchase of leaf, it is no doubt a material advantage that farmers should be able to seek from them advice as to what to grow, and how best to prepare it.

Communications may be addressed to the Commercial Representative, Bulawayo, or to the Director of Agriculture, Salisbury.

THE SOUTH AFRICAN NATIONAL UNION.—During the last few weeks Rhodesia has received a visit from Sir Pieter Bam, M.L.A., whose mission it was to awaken public interest in the merits of South African grain produce as compared with oversea manufactures. In such a cause he must naturally arouse the sympathy of the producer who is seeking an outlet for what he grows, and finds himself face to face at all points with a prejudice in favour of the foreigner based on a reputation gained in the past, but no longer warranted by fact. It is but right to take every opportunity to dispel these impressions, and by using wherever possible the South African article to open a market for our own wares, either in staples like mealies, wine or tobacco, in manufactures such as wagons and implements, or in household delicacies, as for instance prunes and dried fruit. In these, and a hundred other things, by helping our neighbours we are helping ourselves, keeping money in the country, and at the same time using or consuming products every bit as good as those from abroad on which we have to pay duty. Ere long we will be seeking Southern markets for our own products.

THE AGRICULTURAL SAMPLE ROOM.—As intimated in our last number, a collection of Rhodesian products of economic value has been commenced by the Department of Agriculture, and already a number of specimens of much interest have been gathered together. These are being carefully preserved, bottled and labelled with names, particulars of occurrence, use and donors. At the recent agricultural shows many samples of grain, forage, fruit preserves, woods and other articles were secured, and more have been presented.

Thanks are gratefully tendered to the following for contributions:—

The Jesuit Mission, Empandeni; the Jesuit Mission, Chishawasha; the Methodist Episcopal Mission, Mutambarra; the Old Umtali Mission, Umtali; Messrs. Curtis & Dennis, Bellevue Dairy, Bulawayo; Messrs. Huntly & Blackler, Bulawayo; Rhodesia Trading Co., Bulawayo; Rhodesia Trading Co., Salisbury; Messrs. J. Wightman & Co., Bulawayo; Messrs. J. Wightman & Co., Salisbury; Messrs. L. Cripps, Umtali; H. P. & H. T. Fynn, Bembesi Ranch, Bulawayo; St. C. B. Gwynn, Nyamandhlovu; A. E. Hill, Bulawayo; H. P. Holl, Bulawayo; E.A. Hull, Westacre, Bulawayo; J. Meikle, Umtali; T. M. Rixon, Insiza; A. N. Strickland, Penhalanga; E. L. Waight, Premier Estate, Umtali; F. S. Woods, Bulawayo; Mesdames Bennett, Umtali; J. Campbell-Rogers, Bulawayo; Eickoff, Umtali; J. Meikle, Umtali; A. R. Welsh, Bulawayo.

DIPPING TANKS.—Following on an article on Ticks and Their Destruction, by Mr. Edmonds, M.R.C.V.S., in the last number of the "Agricultural Journal," we would call the attention of all interested in this most important topic to the further discussion of the subject in this issue. In it Mr. Stirling, M.R.C.V.S., makes an able defence of spraying, conclusively proving its value when properly applied. To this has been added a description detailing quantities and illustrated by scale drawings, all especially prepared by the Public Works Department, of the standard cattle tank at present in use. The numerous enquiries on the subject, and the applications for grants in aid of the construction of private tanks rendered these specifications necessary. Finally we publish with pleasure details of a tank specially devised to overcome the objections raised to the ordinary tanks, and which it is hoped will prove a sufficient substitute, adapted to dipping both cattle and sheep, economising dipping fluid, and saving material in construction, and dealing gently with the stock. It is a combination of dip and spray, and the results of experiments about to be made with it will be watched with widespread and lively interest.

CO-OPERATION IN MAIZE.—The illustration given on the cover gives tangible evidence of the striking success which is being achieved by the Salisbury Farmers' Co-operative Society. This great shed, the largest of its kind in Rhodesia, has accommodation for 25,000 bags of maize, but this will by no means suffice for the requirements of the season, and a stack will have to be built close by in the open. The Society is to be congratulated on the results which besides reflecting the greatest credit on the Committee, augurs well for the future of agricultural co-operation in Rhodesia.

MAIZE PRIZE COMPETITION.—We would call the attention of mealie growers, whose exhibits formed such attractive features at our recent shows, to the terms of the competition, open to all South Africa, to be held at the next Annual Show of the Bloemfontein and Orange River Colony Agricultural Society at Bloemfontein on March 22nd, 23rd, and 24th, 1910, our attention to which has kindly been drawn by the Secretary. It is hoped that Rhodesia may take a conspicuous and honourable place in this competition to show what can be done in this part of the world. In view of the date being so early, probably crops already harvested will have to compete. The following are the details of the Special Prize given by De Beers' Consolidated Mines, Ltd., for the Best Exhibit of Maize, to consist of three muid bags of grain and one muid bag of ears of one variety, South African grown, on "dry lands." The bag of ears to be representative of the crop from which the grain was threshed. A certificate *must* accompany *each* entry, signed in the presence of a Field Cornet or J.P., stating that the exhibitor has produced at least 200 bags of maize on dry lands during the season, and that this particular exhibit was grown without irrigation. Prize, £20.

In the above prize for maize it must be clearly understood that the required certificate must be posted to the Secretary with the entry form and entrance fees, otherwise the entry will be disqualified.

Also note that no ears of maize can be entered in more than one class.

Entrance fee will be as follows:—£1 each.

In order to give intending exhibitors some idea of the lines on which their maize will be judged, we append a copy of the approved score card which will be used.

AGRICULTURAL JUDGES' ASSOCIATION OF THE O.R.C.

SCORE CARD FOR MAIZE (MEALIES).

Show		Date			
No. of Exhibit		Breed			
				Points.	
				Possible.	Awarded.
1.	Uniformity—				
	(a)	Trueness to type	5		
	(b)	Uniformity of exhibit	5		
	Uniformity of ears indicates that variety has been carefully selected for a number of generations.				
2.	Shape of ears—Shape should be cylindrical showing large percentage of grain to cob. Cylindrical shape will permit ear to carry straight parallel rows of kernels from butt to tip			5	
3.	Colour of ears—White variety should have white cob and yellow and red varieties red cob. Deduct 10 points for variation from this. No mealie should be used for seed that has grains of mixed colours			10	
4.	Market Condition.—This refers to soundness of ear and condition of kernels. Ears should be free from decay or fungous disease and kernels should not be shrivelled or chaffy but show full maturity			10	
5.	Tips—Tips should be covered with regular uniform kernels so that no part of cob can be seen			5	
6.	Butts—Butts should be well filled out with even rows of kernels and swell out evenly beyond end of cob around the shank			5	
7.	Kernels—				
	(a)	Uniformity	5		
	(b)	Shape	5		
	Kernels should be uniform in size, shape and colour possessing similar characters. Shape of kernel on broad side should be near as possible that of a wedge. Such shape will permit of largest number of rows of kernels on cob.				
8.	Size—(a) Length of ear			10	
	(b) Circumference of ear			5	
	Length to circumference should be as 9 to 7				
9.	Space—(a) Between Rows			5	
	(b) Between kernels at cob			5	
	There should be very little space between rows of kernels. A wide space shows shallow kernels of bad shape.				
10.	Proportion of grain to ear—Percentage of grain on ear determined by weighing the ears, shelling the grain and re-weighing the cobs and grain. 100 lbs. of ear should never shell out less than 80 lbs. of grain			20	
				Total	100

Note.—“ Ear ” means grain and cob before shelling.

THE AGRICULTURAL POST.—It is with pleasure that we call attention to the Government Notice which recently appeared inaugurating in Southern Rhodesia an Agricultural Post on the lines of that so successfully carried on in

the Transvaal. Under this new arrangement it will be possible for farmers to send packages of perishable produce such as butter, eggs and fruit by the most rapid means direct from their farms to the consumer. They will thus have the opportunity of turning into money articles for which previously they could get no market, while the consumers in town will be able to make simple arrangements for securing farm delicacies regularly and in fresh condition, without the time-wasting interference of the middleman.

The rates charged will be precisely half that of the ordinary parcels post, viz., 6d. for the first pound and 3d. for every additional pound or fraction thereof, while parcels must be within the usual postal limits of size and not exceeding a maximum weight of 11 lbs.

It is to be hoped that many farmers will take advantage of the facilities now accorded.

THE PURCHASE OF STUD STOCK BY GOVERNMENT ON BEHALF OF FARMERS.—The scheme only deals with animals of pure breeds—British, foreign and South African—and preference will be given to farmers desiring pedigreed stock.

The Government will undertake the purchase of such stock for farmers on the conditions outlined below, for cash, or on the following terms of payment, viz.:—(1) A deposit on application; (2) one-third total cost on delivery, less amount of deposit; (3) one-third after six months, and (4) one-third after twelve months—both these instalments bearing interest at 6 per cent. or 10 per cent. if not paid at due date. For outstanding instalments promissory notes or surety will have to be given. These terms of credit will only be allowed on purchases up to a total maximum value of £75; sums exceeding that amount are payable in cash along with the first instalment. The Government reserve the right to refuse, without reason given, to accept applications or to fulfil purchases even after deposit has been made. All applications must be on the prescribed form "A," and all formalities complied with before same is registered. Applications will be considered in rotation, but fulfilled as opportunity serves, so that animals may be procured as cheaply as possible. Thus small orders may have to wait until a complete truck load

can be arranged. The buyer must undertake to accept the animal allotted to him, unless it fails to satisfy description as given in the application form. Disputes may be submitted to arbitration. The purchase price will include all expenses up to time of delivery, price paid to original owner, commission and charges of buyer and shipper, freight (including attendance and keep on journey), a charge per head for testing, expenses and keep during testing and inoculation up till time of delivery, and a departmental charge to meet administrative expenditure, but not insurance. The price referred to is that of delivery to applicant at the Government stock yards at Bulawayo or Salisbury. With every application a deposit will be made of £5 per head in the case of large stock and £1 per head in that of small stock, which will be deducted from the amount of the first instalment due. This deposit will be forfeited in the event of the application being withdrawn after having been registered. Stock are not to be disposed of without the written consent of the Controller of Stock until payment is completed.

Purchases will be made by the Department of Agriculture through its authorised representatives. Every effort will be made to secure animals in accordance with particulars furnished by applicants, and to the best advantage. All purchases must conform strictly to the importation regulations as regards age and freedom from contact with contagious disease. Pedigrees, if obtainable, will be supplied. Bulls are to be ringed. The Government will bear all risks of transport and inoculations and of death from any cause until delivery, all losses being chargeable to the vote. All animals failing to pass the necessary tests on arrival shall be destroyed and the loss borne by the Government, and another animal purchased for the applicant. It is not proposed to inoculate against red-water.

The Department will not undertake to purchase stock at precisely the prices specified by applicants, but will endeavour to approximate as nearly as possible to the figures given and not to exceed same by over 20 per cent.

The authorised representatives of the Government in South Africa will be allowed a reasonable commission, with expenses additional. Special terms will be arranged in the case of importations from abroad.

On arrival at Bulawayo or Salisbury animals will be placed in charge of the Veterinary Department to tend and test. On completion of these processes the Veterinary Department will issue a certificate that the animal has recovered from the effects. The applicant or his agent will thereupon be advised to take delivery, which will be granted on payment of first instalment. After date of notification to applicant or his agent, responsibility will cease on part of Department and animal will be kept at owner's risk and a charge for keep levied—for bulls 2s., heifers 1s., small stock 6d., donkeys 1s., and horses 4s. each per diem.

At the request of applicant stock may be sent to him by the Department, but entirely at his risk and expense, and only after receipt of first instalment.

The scheme is permanent and continuous, as far as funds permit, not merely spasmodic or of short duration. It is hoped that the difficulty experienced in the past, due to the brief opportunity and short notice given to farmers, and the consequent disappointment of would-be participants will thus be overcome. The Department is prepared to make importations whenever sufficient orders are received to render a consignment possible.

Forms of application will be sent to all desiring such. The following conditions are published for general information.

FORM "A."

Purchase of Breeding Stock.—Application.

To the Controller of Stock,
Salisbury.

Sir,—

I beg herewith to apply for the under-mentioned stock, to be purchased on my behalf on the conditions set forth on the schedule hereto, with which I declare myself conversant and willing to be bound.

Enclosed find (cheque, draft, etc.) for £..... being deposit due. I agree to pay cash, when called upon, for all purchases (delete following if not applicable) in excess of £75, and for the remainder one-third in cash upon delivery of the said stock, less deposits as above, one-third six months thereafter, and one-third twelve

months after delivery, together with interest at the rate of 6 per cent. per annum from the date of the said delivery, with each instalment as it falls due. Failing the payment of any instalment on due date, the whole of the purchase money with interest thereon at the rate of 10 per cent. shall immediately become due and payable. Until the final instalment has been paid with interest as above, the ownership of the said stock shall not pass to the buyer, but shall remain the property of the B.S.A. Company, and shall not be disposed of except with the consent of the Controller of Stock in writing.

Witness my hand at this
day of 19.....

Signature.....

Witness (1).....

Witness (2).....

I of
do hereby bind myself as surety for the due fulfilment of
the above terms by

Signature.....

Witness (1).....

Witness (2).....

The stock applied for in the foregoing application
comprises:—

Breed and Sex.	Limits of Purchase Price, including all charges and delivery at Salisbury or Bulawayo. £ to £	Particulars (which will be complied with so far as may be in effecting the purchase).

.....
Signature of Applicant.

SCHEDULE TO FORM "A."

*Conditions of Purchase of Breeding Stock from
British South Africa Company.*

The purchaser shall accept the animal or animals allotted to him, unless they fail to satisfy description as given by him in schedule to the application form.

The deposits at time of application are for cattle and horses £5 each, for sheep, goats, or pigs £1 each.

Payment of first instalment must precede delivery.

The Government will meet all losses up to the time notified to purchaser for delivery, after which they shall be entirely at purchaser's risk.

The Controller of Stock may refuse at any time to undertake or complete purchases without assigning reasons for so doing.

.....

Signature of Applicant.

THE WATERING AND FEEDING OF LIVE STOCK ON THE RAILWAY.—In view of the large number of live stock conveyed over long distances in or into Southern Rhodesia, the Department of Agriculture recently approached the various railway administrations concerned with an enquiry as to what facilities for watering, feeding, and tending stock existed, and suggesting the possibility of improvements in certain respects. To these representations replies have now been received, the tenor of which is published for the information of those interested, with the hope that it will lead to the alleviation of much unnecessary suffering, and the arrival of stock at its destination in better condition than is too frequently the case at present. Adequate conveniences now exist, and the consequences of neglect of these facilities must therefore rest with consignors who disregard the necessary precautions, or fail to arrange for the feeding and watering at the very reasonable rates charged by the railway authorities.

With regard to the Beira and Mashonaland and Rhodesia Railways, the following is a list of the stations on these railways where feeding and watering facilities for livestock are available :—

“Choma, Livingstone, Bulawayo, Salisbury, and Umtali.” These are the centres where trains usually stop a sufficient length of time to enable feeding and watering to be done, but there are, of course, ramps for loading and off-loading at many other stations, and sidings from and to which stock is frequently carried.

On the Rhodesia Railways at present the only places between Vryburg and Bulawayo where live stock can be fed and watered are Vryburg and Mafeking.

Further, if the sender of live stock places food in the truck, and requests the Railway Department to feed and water the animals on the journey, the work is undertaken by the station staff upon payment of a charge at the rate of 2s. 6d. per truck at each place where the service is to be performed. The staff, however, at the stations on the Vryburg-Bulawayo section is very limited.

The facilities accorded on the Cape Government Railways are given in Clause 29 of the Goods Tariff Book, which is to the following effect :—

Senders of live stock are desired in all cases to state on the consignment note whether they wish the animals off-loaded, fed and watered en route, and if so, at what depot stations.

The animals must not be detained more than 24 hours, otherwise they will be charged as for two separate journeys. Under either circumstance the reloading charge of 2s. 6d. per short truck is made.

Food, for the use of the animals during the journey, is conveyed free of charge when carried in the same truck, provided that the quantity does not exceed 100 lbs. for each large animal, *i.e.*, horses, mules, foals, cattle and donkeys, or five small animals, *i.e.*, calves under three months of age, sheep, goats, ewes, and pigs, and that the stock is consigned for a distance exceeding 100 miles.

Carriage is to be paid on the weight of food taken delivery of at the end of the journey.

Facilities for feeding and watering livestock are provided at the following stations :—

Western System.—Wellington, Worcester, Grootfontein, Porterville Road, Matjesfontein, Beaufort West, Sir Lowry's Pass, and Kalabas Kraal.

Midland System.—Cradock, Naauwpoort, Uitenhage, Klipplaat, and Graaff-Reinet.

Eastern System.—Queenstown and Sterkstroom (for traffic to and from the Indwe line).

Northern System.—De Aar, Beaconsfield, Kimberley, Vryburg.

Rhodesia Railways (Vryburg-Bulawayo Section).—Mafeking, Lobatsi, Artesia, Francistown, Bulawayo.

In so far as the Northern System is concerned, arrangements have been made for another trough to be fixed outside the kraal at Mafeking, and also to enclose two pieces of ground to form enclosures in which livestock can be tended. A hose pipe has also been fixed at Francistown to supply water at that station for livestock going through. Two portable troughs will be provided to be placed in the trucks and removed after the animals have been watered.

The train from Kimberley to Bulawayo by which stock is usually conveyed is only allowed 30 minutes at Vryburg, 50 minutes at Mafeking, and 30 minutes at Francistown, and in consequence, whilst one or even two trucks of stock might be attended to without being detached, in the great majority of cases the feeding and watering would necessitate trucks being detached and held over for 24, or in some cases 48 hours, according to the train service.

A large quantity of sheep is now sent from Kimberley to Rhodesia, but it is impossible to supply them with water, as they will not drink in the trucks. In Australia, especially in the hot months, sheep travelling long distances are sprayed with water at different points, and this might perhaps be done at Mafeking should need arise.

MALTING BARLEY.—The quality of barley grown in Southern Rhodesia from time to time attracts the attention of maltsters as possessing excellent properties for their purposes, especially as regards maturity and colour. We cull the following from a letter received from the Manager, Castle Breweries, Johannesburg:—

“As we are extremely anxious to encourage the growing of a suitable barley in South Africa, I shall be glad if you would be good enough to send us any samples of

barley you may have on hand, together with the name of the same, and any other information you may have, as by this means we may be able to trace the sample referred to."

Unfortunately barley is grown to a very limited extent at present, usually only under irrigation, and, in view of the greater demand for wheat grown under similar conditions, it is not likely that at the moment barley will be grown in any quantity. In view of the possibilities indicated above, however, the Director of Agriculture will be glad to receive samples of barley from any part of Southern Rhodesia, and will arrange for forwarding them to the above-mentioned company in order that reports on its merits may be obtained for the growers.

REVIEWS OF BOOKS.

"Hints on Fruit Growing," by H. E. V. Pickstone.
(Fourth Edition, 1909.)

We welcome a new edition of this useful and thoroughly practical concise treatise on the science and art of fruit growing in South Africa. It tells us *inter alia* of the origin and rise of the industry and how fruit culture on up-to-date lines in Cape Colony was encouraged at the outset, nearly 20 years ago, by Cecil Rhodes.

The present conditions and future prospects are looked upon, after which brief but lurid sections are devoted to the treatment of land, establishing, cultivating, irrigating, and manuring orchards, new and old, to the different sorts of fruit, to the common pests and injuries, and their treatment, and to the commercial aspects of the subjects. No details are ignored, yet the whole is condensed into 108 pages, all of them well worth the attention of anyone who grows fruit either for profit or for pleasure.

E.A.N.

"Utilisation of Flood Water": The Southey Case.
(Townsend, Taylor and Snashall, Cape Town. 1s.)

This bulky pamphlet (264 pp.) is not in any sense a treatise upon the employment of flood water in agricultural operations. It is primarily an account of the efforts of an enterprising Karroo farmer to prevent the wash of

water in flood time, and of the manner in which a defective law of the Cape Colony robbed him of the fruits of his labour. Since that legal diversion was made by Mr. Justice Maasdorp in December, 1905, an amending act has come into operation in the Cape Colony; but this book leads us to the conclusion that the law in regard to right of riparian owners over flood water is still not sufficiently clear.

No doubt the needs of Rhodesian farmers in this respect are far less pressing than those of farmers in the Karroo; but there are parts of this territory so dry as to make any information on the subject of very great importance to farmers in such localities. Incidentally there is here a great amount of useful suggestion of a general character; but the extent to which Mr. Southey's methods of using the flood water can be copied, depends entirely upon the local circumstances. No farmer, for example, would be pleased to see his irrigable land covered by a plenteous deposit of sand as the result of turning flood water upon it.

There is one general lesson, however, which may be learned from the pamphlet. The tendency of heavy rainfall to run quickly off the land continually increases, unless adequate steps are taken to prevent it. The road or sheep track or native footpath becomes a sluit, this sluit deepens and widens, the vlei dries up, the river bed changes into a huge drain; all works together to take the water off the land in the shortest possible time. If this tendency is to be counteracted, action should be taken at once, delay is always disastrous. What is needed is an observant eye, together with a vigorous application of the old proverb that "a stitch in time saves nine."

L.M.F.

"Hints to South African Farmers," by J. G. McDonald.
(Argus Co. 2s. 6d.)

The title of this little work, and the author's preface which accompanies it, are such as largely to disarm criticism.

It is a book written by an amateur, who, however, takes a very keen intellectual and practical interest in agriculture; and it is intended to help farmers who have had no scientific training.

Within these limits it is a very useful little book. Its remarks on soils, particularly its insistence upon the lack of lime, so common among South African soils, are excellent.

The statements as to the disadvantages attendant upon very deep ploughing are also worthy of note, as will probably astonish farmers who imagine that the greater power of moisture retention thus attained is unaccompanied by any dangers.

In regard to the views put forward on the subject of crops, the conclusions reached are interesting and worthy of attention; but the warning that they are based upon but a small body of experience should be given.

An interesting attempt has been made to set down the recent scientific discoveries on the subject of fertilisation by bacteria in such a form as to make them available to the novice, but the subject is one about which much has still to be learnt. In the meantime the plain man would probably do better to confine his attention to manuring his land suitably, and cultivating leguminous crops not only on account of the yield, but because of their manurial value.

Finally, it is well to remember that advice good in itself may be difficult to follow. No reference is made to the limitations imposed upon the ordinary South African farmer by the smallness of the capital at his disposal, a limitation probably felt much less upon the farms on which the writer's evidence has been obtained, than in the vast majority of cases. This handy little treatise should be a real benefit to many a Rhodesian farmer.

L.M.F.

“Egyptian Agriculture Text Book of 1908.”

A fourth book, a copy of which has been received by the Department of Agriculture, through the courtesy of the Minister of Education, Cairo, is a text book of Egyptian Agriculture (Vol. 1) the joint work of Messrs. Foaden & Fletcher, two recognised authorities on the subject with which they deal, assisted by other members of the staff of the Khedevial Agricultural Society and the School of Agriculture, Gizeh. The conditions of Egypt with its

fertile alluvial soil, cultivated to the utmost limit, its marvellous system of irrigation, its dense and intensely conservative population, are the very antithesis of what we find in Rhodesia. Yet for reference purposes the book is of value to us, being thoroughly practical throughout, and giving clear descriptions of the methods of cultivation in vogue, the implements in use, and the facilities employed, together with a statement of the theories underlying the applications of scientific law to farm operations, which for simplicity, clearness and brevity, is a model of how science should be rendered palatable to the lay mind. A second volume is promised, dealing with farm crops, fruit and vegetables, seed and crop rotations, including many which are grown here, like maize, sorghum (Kafir corn), beans, earthnuts, and some which deserve to be tried like flax, til, lentils, berseem, sesame, chickpeas, indigo, safflower and so on. Farm animals and farm pests are dealt with, and a chapter is devoted to dairying, which in Egypt is unique in this respect that the milch cows are buffaloes.

The book is in many respects a model of what a text book upon the agriculture of one particular locality should be, and has the crowning merit of being well and judiciously illustrated.

E.A.N.

DATES OF MEETINGS OF FARMERS' ASSOCIATIONS, 1909.

Name of Association.	Place of Meeting.	Aug.	Sept.	Oct.	Nov.	Dec.
Enkeldoorn F. Association	Enkeldoorn	28	25	30	27	25
Lomagundi ..	Eldorado Mine	14	11	9	13	11
Makoni ..	Rusapi ... ..	...	15	...	...	15
Marandellas ..	Marandellas	7	...	2	...	4
Mashonaland ..	Salisbury, 1 p.m.	7	4	2	6	4
Manica F. & Landowners Association.	Umtali	7	4	2	6	4
Rhodesian Landowners & Farmers Association.	Bulawayo, 3 p.m....	26	30	28	25	30
Do. ..	Matopos	29	26	31	28	26
Do. ..	Plumtree ... ..	...	...	7	...	...
Do. ..	Figtree	Dates irregular.				
Eastern District of Victoria	Farm Good Hope...	7	...	...	6	...

The Prevention and Treatment of Blackwater Fever.

FOR THE USE OF FARMERS AND
SETTLERS.

By A. M. FLEMING, C.M.G., M.B., F.R.C.S. (Edin.),
D.Ph. (Camb.), Medical Director for Southern
Rhodesia.

At the present stage of our knowledge, Blackwater Fever may be considered to be the result of Malarial infection, which has been imperfectly treated. The vast majority of cases show a history of recurrent attacks of malaria, which have been made light of, the patient having possibly, whilst the symptoms were acute, taken a few doses of quinine, and then not bothered further.

A great deal has been written, and more talked about, the dangers of taking quinine, and how it is supposed to bring on Blackwater Fever, and I would like, at the start, to disabuse the mind of the public on this point.

The theory, for it still remains a theory, that quinine is responsible for the appearance of Blackwater Fever is by no means a new one, and, lately, has received the support of Professor Koch. The worst of it is that Professor Koch's arguments and conclusions have never been properly understood by the public, and I have often been told by the ignorant that, Professor Koch having proved that quinine caused Blackwater Fever, to take quinine for malaria was merely courting disaster.

Now, I have had the pleasure of discussing this very point with Professor Koch himself, and can with certainty affirm that he never said anything of the sort. What Professor Koch did say was that in his opinion persons who were infected with malaria which had been imperfectly treated with quinine, became after a time predisposed to Blackwater Fever, and when in that condition a sudden

dose of quinine was often the determining factor in bringing about an attack. He urged, therefore, that all persons infected with malaria should take full doses of quinine, and continue the treatment for some time afterwards, in other words, so habituate themselves to quinine that they never reached the stage of chronic malaria, which predisposed to an attack of Blackwater Fever. A very different statement to the former as you can see.

It is still a disputed point whether quinine is or is not one of the causal factors in determining an outbreak of Blackwater Fever in persons predisposed to it from environment and previous malarial infection, and it is a question upon which much controversy still rages, and at the same time it would be quite out of place to discuss this here; it is sufficient to say that, if all cases of malaria were properly treated from the start with quinine regularly administered, and the administration continued in preventative doses for some weeks or months afterwards, Blackwater Fever would be a much rarer disease amongst us, if not eradicated altogether.

In my experience of many thousands of cases of malaria, I have never seen Blackwater Fever occur in a person who was thoroughly cinchonised, that is so far under the influence of quinine that his ears rung, and he was deaf from it. It is, however, not the cause of Blackwater Fever I want to write about so much as how to recognise it and treat it, when medical aid is not at once available.

There is no difficulty in the recognition. It commences, as a rule, just as any ordinary attack of malaria, though the initial rigor (or shivering attack) is as a rule more severe and prolonged. Shortly afterwards the patient notices that on passing water, his urine looks jet black. If put in a glass vessel and held to the light, however, it is seen to be really a deep rich port wine colour. At the same time he becomes rapidly jaundiced all over, this being specially marked in the whites of the eyes.

At the very first onset the patient should be put to bed, and the bowels opened with a sharp purge, preferably five grains of calomel. The diet should be entirely liquid, of a bland nature, warm milk and barley water being most suitable, if obtainable. The patient must be kept warm, and the greatest care taken to avoid chills and draughts.

If vomiting is severe, and it often is, especially at the outset, the stomach can be washed out by giving large drinks of hot water with a few grains of bi-carbonate of soda dissolved in each tumbler. Nourishment, in this case, should only be given in small quantities (a few spoonfuls at a time) frequently repeated. Stimulants are, as a rule, unnecessary and undesirable, but if found necessary, probably the best is a little weak brandy and soda.

As syncope or heart failure is not an infrequent complication, the patient must on no account leave his bed for any purpose whatsoever, and must not even be allowed to sit up. If suppression, that is stoppage of the flow of urine, threatens, warm applications such as linseed poultices, clothes wrung out of hot water, etc., should be applied to the back, in the region of the kidneys.

As far as drug treatment is concerned, we have unfortunately no specific in Blackwater Fever, as quinine is in Malarial Fever. In British Central Africa, where Blackwater is well known, good results are reported from a modification of what is known as Sternberg's Mixture for Yellow Fever. This consists of thirty drops of Liquor Hydrargyri Perchloridi and ten grains of Bi-carbonate of Soda, taken in water every two hours for the first twenty-four hours, and subsequently every four hours till the urine clears.

Others again have obtained good results from Methyl Arsenate of Soda (arrhenal) in half grain doses dissolved in sterilised water and injected hypodermically every six hours till the urine clears. As this, however, requires the requisite skill for the administration of the hypodermic injection, it can only be given by a medical man or trained nurse.

The administration of quinine in large doses is advocated by some. This, however, should not be attempted, except where a doctor is in attendance and on his advice.

Blackwater Fever is a disease which will repay, more almost than any other, careful and intelligent nursing, and it is in this direction that the uninitiated can do most to alleviate the suffering of the patient and avert disaster, rather than by the administration of powerful drugs, concerning the action of which they know nothing, and the

effects of which they cannot watch. The strictest attention must at all times be paid to the warmth of the patients, the diet and the absence of all excitement or movement, and he or she should never be left long alone.

After the attack and during convalescence, the anæmia and consequent debility is the most marked symptom, and the patient should not leave his bed till at least a fortnight has elapsed after the temperature has fallen and the urine completely cleared. During this time he should be fed upon milk, eggs, jellies, strong soups, etc. An iron tonic should at the same time be given.

Persons who have once had Blackwater Fever are exceedingly prone to further attacks, if re-infected with malaria, so they should accustom themselves to taking quinine in preventative doses for a long time afterwards. Sir Patrick Manson has laid it down as a maxim that all those who have had Blackwater Fever should take five grains of quinine daily, whilst living in a malarial district, and for at least six months after leaving it.

Maize Growing.

By H. GODFREY MUNDY, Agriculturalist and Botanist.

It is only within the last three or four years that South Africa has realised of what vast importance to her the humble maize plant may become. With the advent of an export trade, farmers have been led to look more closely to their methods of cultivation and seed selection, and if we in Rhodesia do not wish to be left behind, we must see to it that our methods bear favourable comparison with those of the other large maize-producing countries of the world.

As is well known there are innumerable so-called varieties of maize of which not a few are familiar to South African farmers.

In Rhodesia it would appear that fewer varieties are grown, but these have so far proved their worth, and afford excellent ground work on which to build.

White maize is at present in better local demand than yellow owing to the fact that natives object to mealie meal ground from yellow maize. For export to Europe, however, colour would appear to be of little account, as long as the grain is of good and even quality, and up to grade. In any case, we have excellent standard white strains, in Hickory King, Boone County White, and in some respects in Salisbury White, though the latter is not yet a fixed strain, often showing variations of type, and not infrequently of colour also. Among yellow varieties, Early Leaming, Golden Eagle and Yellow Flint are grown, and of these the first named is exceedingly hard to beat as a heavy cropping early maturing variety.

It is probable that some other varieties such as Iowa Silver Mine, Hickory Horse-Tooth, Yellow Hogan and Eureka Field Corn might, with advantage, be introduced into the country, but this point the Agricultural Department will shortly take up, when it is hoped a series of experiments in maize growing to extend over several years may be laid down on the Experiment Farm, Gwibi, and on the Botanical Experiment Station, Salisbury.

AUSTRALIAN MAIZE CROP.—In a recent number of the "Victoria Agricultural Journal" some interesting figures are given regarding the maize crop. In Victoria there are

estimated to be 11,559 acres under maize, giving an average yield of 60.99 bushels, or approximately 21 bags per acre. In New South Wales 174,115 acres, yielding 33.10 bushels per acre (approximately $10\frac{1}{2}$ bags), and in Queensland 139,806 acres, with an average yield of 26.49 bushels per acre ($7\frac{1}{2}$ bags approximately).

In the Transvaal the average yield does not probably exceed 5 bags per acre, though in Natal, owing to better methods of cultivation, the crop is somewhat heavier.

To arrive at a correct estimate of the yield in Southern Rhodesia is difficult, but probably from 6 to 8 bags per acre over a comparatively small area may be taken as a fair average.

From the farms in the corn (maize) belt of the United States of America, still larger crops than those reported from Victoria are obtained, and it is therefore evident that much must be done before we can rest satisfied with the yields obtained in Rhodesia.

The question arises, what is the reason of the South African crop being so much lighter than those referred to above? Is it that the soil is less fertile, the seasons less favourable, or is it our present methods that are at fault? Assuredly it is the latter cause, for where thoroughly up-to-date farming is practised, yields of from 15 to 25 bags per acre are not uncommon.

If we consider by what means these increased yields are obtained, we shall find they depend upon the observance of four fundamental principles.

1. Selection of seed.
2. Thorough preparation of the soil.
3. Constant after cultivation.
4. Rotation of crops.

SELECTION OF SEED.—Selection of seed plays a most important part in the resulting crop, just as careful selection of sire and dam are essential to the breeding of good stock. Seed maize should be of the best, pure in strain, true to type, and the grains large and of even size; by this means we ensure as far as possible an even planting—if the planter is used—and a regular and uniform germination. Where small malformed grains are used for seed

it is only to be expected that a poor and uneven germination will result, and this at harvest time often bears fruit in the shape of an uneven crop, weak plants with small cobs, and a large percentage of barren plants.

To obtain the maximum yield per acre the ground must carry as many robust plants as experience teaches is profitable, and each plant should bear at least one, sometimes two, fully developed cobs.

Systematic selection of seed is usually left to the plant breeder, but every farmer can do a certain amount, and so each year improve the strain which he is growing.

It is a recognised fact that "tipping" and "butting" is essential to success, that is to say, the unevenly formed grains at the tip and butt of the cob are removed, and only the uniform regular shaped kernels found in the centre of the cob used for seed.

In addition, in selecting cobs for seed, the following points must be looked for:—

- (a) Uniformity to type, colour of grain and cob, and shape of ear.
- (b) Straight even rows of grain.
- (c) Grain closely packed on the cob, and rows close together, thus ensuring the largest possible number of grains to each ear.
- (d) Ears well filled at butt and tip.

There are many other important points which must be borne in mind by the systematic breeder of pedigree seed, but the above are those which with little trouble can be adhered to by the practical farmer who is growing maize in conjunction with other crops and stock raising.

PREPARATION OF THE SOIL.—This is a point, the importance of which is too often overlooked. Land should not only be ploughed, but it should be pulverized, that is to say the soil which is turned by the plough should be broken down into fine particles, so that the roots of the young maize seedlings can spread and ramify, and by so doing anchor the plant and supply it with that nourishment which is essential to its full development. Land which is turned up rough and sown in this condition not only fails to satisfactorily fulfil the above functions, but further gives up

its soil moisture through evaporation, far more readily than when properly worked to a good tilth.

In a thoroughly prepared and well pulverized seed bed the surface soil water is present in a film around each particle of soil, hence the greater number of minute particles, the greater capacity for holding water.

The friability or openness of the soil is also important, because without this its capacity for absorbing heat, air and moisture is seriously affected. Care must be taken that the turned soil is in close contact with the sub-soil beneath, otherwise the current of capillary action is broken, and but little water can pass from the sub-soil to the surface layers. In consequence, during times of drought, the upper layers of soil dry out excessively, and the maize plant being mainly a surface feeder, suffers accordingly.

PLANTING.—In sowing or planting, the aim should be that each plant as it grows up receives as far as possible an equal amount of air, light, and growing space for its roots. This is one of the reasons why planting in drills almost invariably results in better crops than does broadcast sowing. From 10 to 14 lbs. of seed is required to plant an acre, and for grain production the best results are generally obtained when the rows are spaced three feet apart.

AFTER CULTIVATION.—Thorough preparation of the seed bed entails the partial keeping down of weeds, but in a country like this with a very hot and moist summer, the growth of the weeds is extremely quick and luxuriant, and unless after cultivation is resorted to, weeds will grow more quickly than the crop, and, while the soil is robbed of valuable plant food, the plants are themselves deprived of that air and light which is so necessary to their existence.

During the earlier stages of growth, no better method of cultivation can be followed than that of harrowing with a spike tooth harrow, or weeder; if this is done during the heat of the day when the plants have lost some of their rigidity, it is astonishing how long it can be continued without damage to the crops, moreover a far greater area of land can be covered in a day's work with a harrow than with a cultivator or horse hoe.

When the plants have reached a certain height, the use of a harrow must be discontinued, and it is then that the horse hoe should make its appearance, and if necessary

be continued with until it is no longer possible to take the implement between the rows without damaging the plants.

By the continued use of the harrow, germination of weed seeds is encouraged, while the young seedlings are destroyed almost as soon as they appear, and in this way the need for horse hoeing or scuffling—the more costly process of cultivation is minimized. If harrowing is to give the best results, it must be resorted to immediately each succeeding crop of weeds appears, as once past this stage and firmly rooted, the harrows will make but little impression. As a rule, on moderately clean land, two to four harrowings, and one to three subsequent scuffings, should be sufficient to ensure the crop freedom from weeds, and to enable the soil to absorb and retain an adequate supply of moisture.

ROTATION OF CROPS.—Although maize may be looked upon as the staple crop of Southern Rhodesia at the present time, it must not be thought that the best returns can be obtained if maize and maize only is grown on the same land year after year. Rotation of crops is considered necessary in all countries where agriculture is brought to a high state of perfection, and this applies equally to South Africa.

Different crops require the various plant foods present in the soil in varying proportions, while some, namely, those belonging to the great order of leguminosae, tend to enrich the land on which they are grown. In South Africa as elsewhere it is generally in nitrogenous matter that the soils are wanting or most easily exhausted, and this is cheaply supplied by the growing of leguminous crops, which can either be converted into dry forage or ploughed under for green manure. Among the best of these are Kafir beans or cow peas (*Vigna catjang*) and velvet beans (*Mucuna utilis*), pea nuts or ground nuts (*Arachis hypogaea*) should also prove a profitable leguminous crop for growing in rotation with maize on the lighter and more sandy soils.

The question of the direct application of artificial fertilizers to the maize crop has lately been receiving a good deal of attention, but it is doubtful whether this can be profitably done in Rhodesia at the present high price of manures. It is usually found better policy to apply the

fertilizers to some crop giving a greater monetary return such as wheat, potatoes, or other root crops, while maize may follow the second year, and oats, maize or manna the third. The area of land which is cropped should be roughly divided according to what rotation it is proposed to follow, whether a three year or four year course, etc., and each year as much of one of these divisions as possible should be planted to a leguminous crop, so that all the land may benefit to this extent in the same manner.

There is some tendency at the present time to sacrifice good farming at the expense of getting a large area of land under crop, but in practice it will almost invariably be found better policy to take smaller areas, and do them well. A good crop of say 10 to 15 bags per acre, reaped from a comparatively small area which has been well cared for, will show a better profit than a small yield spread over an area twice or three times as large.

Everything points to the fact that in the near future, with reduced rates for export, maize growing should be of the first importance to Southern Rhodesia, but if good crops are to be grown it is essential that up-to-date methods of farming should be followed. The improvement of maize by systematic seed selection will be dealt with more fully in a subsequent article.

Fruit Fly Injury to Citrus Fruits.

By C. W. MALLY, A.M., Eastern Province Entomologist,
Cape Colony.

The large numbers of fruit fly maggots that developed in the stone fruits during the summer have emerged as flies, and are now busy attacking the citrus fruit as it begins to ripen. In several orchards visited, numbers of the flies could be seen on the trees, and quite a number of the ripest oranges had evidently been punctured. Although comparatively few if any of the eggs are developing at this time, the puncture in the fruit induces premature ripening, and leaves an injury which may seriously

affect its keeping qualities. The punctured spots provide an entrance for the "Blue Mould," which is often the cause of loss in the fruit in storage or in transit. Even though the utmost care is exercised so as not to injure the fruit in picking or handling it, the danger of loss from "Blue Mould" is still an important factor, unless the fruit fly is kept under control. The punctures that are made while the fruit is still of a uniform green colour can be detected by the yellowing of the tissue immediately surrounding them, so that the damaged fruits can easily be detected in that stage. But as the fruit ripens these injured spots are not so easily detected unless they have advanced to the stage where they show as small brownish spots. The punctures that are made when the fruit is turning yellow in the ordinary course of ripening are so difficult to detect that they cannot be culled out in packing for export. Besides, the mere fact of culling them out means such a heavy loss in otherwise sound fruit that the percentage of culls is an important item.

Although a certain amount of damage has already been done in the earlier portion of the crop, the bulk of the crop in most localities is still sound, and can be protected by prompt action in applying the poisoned bait for the destruction of the flies.

The bait should be made as follows:—

Sugar (cheapest grade)	3 pounds.
Arsenate of Lead	4 ozs.
Water (hot or cold)	5 gallons.

Dissolve the sugar and the arsenate of lead in the water and keep well stirred during the application. Apply a light sprinkling of the bait evenly over each tree by means of a common brass garden syringe (20 in. by $1\frac{3}{4}$ in.) using the finest rose. About one syringe full is sufficient for a large tree. The application should be repeated immediately after each rain, at least until the flies have been brought under control. During fine weather the application need not be repeated so long as the specks of sweet can be seen on the leaves—or about once a fortnight.

There is no danger of poisoning from eating the fruit, nor of destroying honey bees.

The Tsetse Fly.

By L. BEVAN, M.R.C.V.S., Government Veterinary Surgeon.

For a long time it has been known that the bites of the Tsetse Fly produces fatal effects upon domestic animals. The exact part played by the fly in producing disease was first demonstrated in 1895 by Lieut.-Colonel (now Sir David) Bruce, who proved that it acted as a carrier of a minute blood parasite (*Trypanosoma brucei*) which appears to live normally in the blood of many species of wild animals in Africa without doing them any harm, but when taken therefrom and introduced by the proboscis of the Tsetse into the blood of domestic animals, multiplies with enormous rapidity and eventually causes death. It follows, therefore, that any preventive measures against the disease must be based upon an accurate knowledge of the habits and distribution of the Tsetse Fly—the carrier of the disease—and the source of its supply of the blood parasite.

For this reason the public is invited to assist the Veterinary Department in obtaining reliable information on these important points, to collect and forward specimens of the Tsetse and other blood-sucking flies, to report their appearance in any district, and to notify any cases of disease in stock which may be reasonably attributed to the bite of these insects.

THE GENERAL CHARACTERS OF THE TSETSE.—The following description taken largely from the valuable "Monograph of the Tsetse Flies," by E. E. Austen, is given to enable the reader who has no practical knowledge of the fly to recognise a specimen at sight.

"Tsetse may be described as ordinary-looking sombre brownish or greyish brown flies, varying in length from $3\frac{1}{2}$ to $4\frac{2}{3}$ lines in the case of *Glossina morsitans*, to about $5\frac{1}{2}$ lines in that of *Gl. fusca* or *longipennis*, with a prominent proboscis in all species (of which seven are at present known). The hinder half of the body, or abdomen, in the best known species, though not in all, is of a paler colour, and marked with sharply defined dark brown bands, which are interrupted in the middle line. The abdomen is invisible when the insect is at rest, as it is then concealed by the wings of a brownish colour, which lie closed flat over one another down the back, like the blades of a pair

of scissors, while the proboscis projects horizontally in front of the head."

Measured roughly from the tip of the proboscis to the end of the closed wings, the length of the *Glossina morsitans* (the commonest Tsetse Fly in this country) is about half an inch, that of the *Glossina fusca* about three quarters of an inch.

"Apart from the prominent proboscis and the mode of carrying the wings when at rest, there is nothing in any way remarkable or striking about the appearance of the Tsetse," consequently several other blood sucking flies may be readily mistaken for it. Any suspected fly, therefore, should be sent to the Veterinary Department for identification.

WHERE TSETSE FLIES ARE USUALLY FOUND.—The Tsetse is not found everywhere in this country, but is confined to definite tracts which are known as "fly belts." Information is required as to the limits of these belts, and as to the factors which determine the shifting of these belts from one locality to another. Austen says:—

"Although the Tsetse is probably dependent upon the blood of wild animals for its continued existence, all recent evidence goes to show that the most important element is the physical character of the locality. As a general rule, it may be said that the Tsetse is confined to damp, hot, low-lying localities, either on the borders of rivers or lakes, or at any rate not far from water. Cover in the shape of more or less thick bush or forest is essential, and the fly is not found on open grass plains."

FLY BELTS.—"Although along the courses of rivers, or in the low country bordering a coast line, fly-belts may extend for hundreds of miles, varying greatly in width according to the nature of the country, it does not follow that Tsetse flies are to be met with at every point throughout the extent of the belt. More usually they are confined to particular patches of forest or bush, the area of which may be quite small.

"Just as the worst patches of fly within the limits of a fly belt are often sharply defined, so in a large tract infested by Tsetse there may be small areas which for some reason, perhaps owing to their having been cleared of bush, the fly never enters.

"These spots form veritable harbours of refuge for the traveller who may be compelled to cross the fly-belt with oxen and horses, since, by travelling at night and taking

care to keep the animals within an asylum of this kind during the day, the dangerous zone may be traversed in comparative safety."

ASSOCIATION OF TSETSE WITH BIG GAME.—It is pretty generally held that, "were it not for the big game, on the blood of which it feeds, the Tsetse would soon cease to exist, at least in numbers sufficient to be formidable."

"Whether the Tsetse is more partial to or more dependent upon one species of game than another is doubtful, although the majority of writers have stated that it is especially associated with the buffalo."

This is a question of the greatest practical importance, which the recorded experience of observers will help to solve.

SEASONABLE PREVALENCE.—Information is required as to the relative prevalence of the fly during the various seasons of the year, and the circumstances which determine its presence and disappearance.

Although it is generally held that the "Tsetse" does not begin to be active until the sun grows hot, and cattle owners take advantage of the fact of travelling with their animals through fly-belts at night, some difference of opinion seems to exist as to the time at which the insect becomes most active and aggressive.

One authority states that he considers it "dangerous to travel at night with cattle and horses, until it begins to grow cold towards the middle of the night," and states that he has been bitten often until past 11 p.m.

REPRODUCTION.—According to Colonel Bruce:—"The Tsetse-fly does not lay eggs as do the majority of the Diptera, but extrudes a yellow coloured lava nearly as large as the abdomen of the mother. This larva is furnished with a black hood at one pole and two minute spikes at the other. It is annulated, and consists of ten segments. Immediately on being born the larva creeps about with a good deal of activity, eventually searching for some hole or cover in which to hide. Having found a resting place, it immediately begins to change colour, and after a few hours has turned into a jet black hard pupa or nympha.

"If these pupal cases are placed in a perfectly dry place, as in a wooden box, the perfect insect hatches out in about six weeks. From this it would appear that the life history of this species of fly is very simple, it only being



Fig. 1.



Fig. 2.

Fig. 1.—*Glossina morsitans* (enlarged).

Fig. 2.—Diagram of Tsetse Fly, showing veins of Wings.



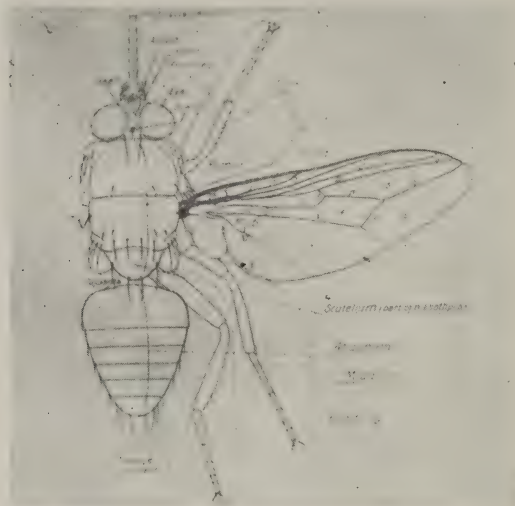


Fig. 3.



Fig. 4.

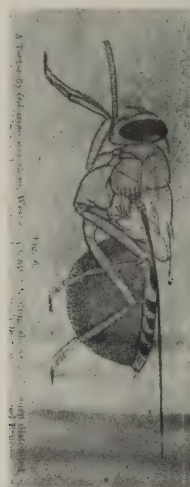


Fig. 5.

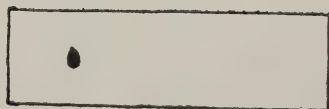


Fig. 6.

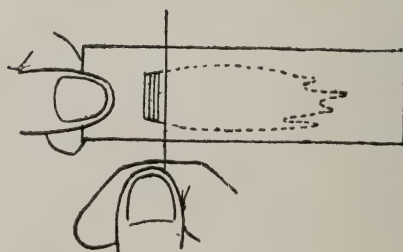


Fig. 7.

Fig. 3.—Tsetse Fly in resting position, showing portion of Wings.
 Figs. 4 and 5.—Tsetse Fly, showing abdomen before and after feeding.
 Fig. 6.—Drop of blood on glass. (For blood smear.)
 Fig. 7.—Same drop of blood spread out into a thin film.

necessary for the female insect to deposit the larva on the surface of the soil or in the grass, when the larva creeps into the nearest shelter, in a few hours becomes hard and black, and in five or six weeks hatches out into a fully developed Tsetse-fly. It has often been surmised that this fly is bred in buffalo-dung, but from a consideration of the foregoing facts it is evident that nothing is wanted except any moderately dry place."

THE DISEASE.—The disease inoculated by the "Tsetse-fly" (*Gl. morsitans*) is called "Nagana" or simply "Tsetse-fly disease"; while an animal that has been infected is described as "fly-struck."

A large number of species of mammals are susceptible to the disease, but, fortunately, man is refractory. A certain number of species, living in the wild state, appear to have great tolerance, for they can harbour the parasite in their blood without being inconvenienced thereby. Birds are practically resistant.

The time which elapses between the inoculation and the appearance of the parasites in the blood varies with the species of animal. The duration of the disease varies greatly with the animal species, thus:—

1. It runs an acute course in the mouse, rat, dog and monkey.
2. A sub-acute course in the rabbit, equine and pig.
3. And a chronic course in cattle, goats and sheep.

That is to say, a dog sick of the disease dies with extreme rapidity, while in the horse, after an incubation course of about ten days, symptoms become manifest and death may occur in from fifteen days to two or three months.

In bovidæ great differences are met with, some dying within a week of contracting the disease, many within a month, and others may linger on for six months or longer. It is a common thing for fly-struck cattle to live during the dry season and die with the first rains.

SYMPTOMS.—Equines suffering from nagana may show, during the course of the disease, a number of characteristic symptoms as recorded by Bruce:—

"The first symptoms of a horse being affected by nagana is that his coat stares, and there is a watery discharge from the eyes and nose. Shortly afterwards a slight swelling under the belly or puffiness of the sheath may be noticed, and the animal falls off in condition. The

hind extremities also tend to become swollen, and the various swellings fluctuate, one day being considerable, another day less marked, or having disappeared. During the time the animal is becoming more and more emaciated; he looks dull and hangs his head; his coat still stares, becomes harsh and thin in places; the mucous membranes of the eyes and gums are pale, and probably a slight milkiess of the cornea of the eyes is observable. In several cases, and in the last stages, the horse presents a miserable appearance. He is a mere scarecrow covered with rough harsh hair, which has fallen off in places. His hind extremities and sheath may be more or less swollen, sometimes to a great extent, and he may become quite blind. At last he falls down, unable to rise, his breathing becomes shallower, and he dies exhausted. During his illness he has shown no signs of pain, and up to the last day has had a fairly good appetite."

BOVIDÆ.—"The general symptoms in cattle are less marked than in horses or dogs. They gradually waste away; the hair, at first harsh and staring, tends to fall off, there is the same trickling of a watery fluid from the eyes and nose, and a tendency to diarrhœa. In many cases the dewlap becomes swollen and baggy."

The disease is accompanied by occasional rises of temperature, which seem related to the number of parasites present in the blood.

POST-MORTEM.—Very few well marked changes are met with on post-mortem examination; enlargement of the spleen is perhaps the most marked lesion. There is generally some gelatinous infiltration under the skin and mucous membranes and between the muscles, and a quantity of fluid in the heart sac and the lung and abdominal cavities.

THE BLOOD.—In addition to the history and external symptoms of the case we have another means of determining whether sick animals are suffering from "Tsetse-fly disease," namely, by the microscopic examination of the blood. By this means the causal parasite may be seen at different stages of the disease, although it is not always visible. Blood smears should, therefore, be taken in the following manner.

HOW TO SEND BLOOD SMEARS FOR DIAGNOSIS.—When a beast is suspected to be suffering from "Nagana," blood should be taken and sent at the greatest despatch to the

office of the Government Veterinary Bacteriologist, Salisbury.

(a) From a Dead Animal.—The whole of the ear of the animal may be cut off and wrapped in an antiseptic cloth and sent for examination. If the time before the specimen can reach the Veterinary Bacteriologist's is likely to be long, it is better to collect a small drop of blood from the cut ear, spleen or kidney, on a piece of flat clean glass, so that a thin film is formed. The film should be so thin that it will rapidly dry in the sun. Having wrapped the glass in soft material it is ready for despatch.

(b) From the Living Animal.—The hair from the edge of the ear should be clipped off and the ear washed and dried. The edge of the ear should be cut with a clean pair of scissors or knife. After a little blood has escaped, a drop should be collected on the glass and spread out in a thin film as stated in the foregoing paragraph. Several labelled preparations should be sent from each case. The thinner the film the better for examination.

(c) Slides should be taken and sent every few days.

TRYPANOSOMA DIMORPHON.—A few years ago two investigators, Dutton and Todd, found that a disease of horses in Gambia was caused by a blood parasite which they called "Trypanosoma Dimorphon." Microscopically this parasite presented certain differences to the "Trypanosoma brucei," the causal parasite of "Nagana." Later it was found that this trypanosome not only affected horses in Gambia, but also cattle and other animals throughout a wide area in Central Africa. Last year it was detected in cattle at Broken Hill, and since then has been found in the blood of sick animals in parts of Southern Rhodesia. The symptoms of the disease caused by the "Trypanosoma dimorphon" are practically identical with those seen in "Nagana," except that swelling of the limbs and paralysis of the hind quarters are not so commonly present.

It has been suggested that this parasite may be transmitted from the sick animal to the healthy by flies other than the "Tsetse" (*Glossina morsitans*). Although this theory has not been definitely proved, it is necessary to make provision against such a contingency, and it is hoped that the public will assist in collecting and forwarding specimens of all blood sucking flies which come to their notice, especially those found on animals in districts where "Nagana" is thought to exist.

Some Notes on Forestry in Rhodesia.

By W. E. DOWSETT, Matopos.

The first thing to consider in laying out plantations is the site on which it is intended to commence operations—it is a great mistake when laying out plantations on farms to select ground that can be utilized to better advantage for cropping or perhaps for an orchard. On most farms in the country there will be found ground that is useless for either of these purposes, but will well repay the time and expense expended if put under trees of suitable varieties—thus making a valuable asset of what would otherwise be waste land.

It will not be out of place to mention a few advantages to be derived from planting up what is otherwise useless ground. To begin with, a forest is a most prolific producer of humus, organic material derived from vegetation, and created by the trees from materials taken up in solution by the roots from the soil and absorbed by the leaves from the air, gradually accumulated from the decay of the leaves or of the trees themselves. This humus absorbs water with avidity, and retains it with tenacity; it is partly on this account that vegetable mould (or humus) when mixed with other soils tends to impart fertility by retaining moisture within the reach of vegetation.

Again it will be seen on most slopes or hillsides that the ground has been scoured out by the heavy rains, and we must remember that every year is making these deeper and that our soil is being not only drained of its natural sap, but is bodily taken away, and this is the top soil that contains the humus or vegetable mould, so that we are losing the most valuable constituents. About the cheapest and most effectual manner of preventing this deterioration is to plant a few belts of trees across the slope; in a little time the roots spread out and hold the soil. If the dongas are deep, cut some branches from any trees and build up level to the top of the sides of the donga; this will be the means of catching all odds and ends that may come down with the water, and will form a dyke, and it will be found that the soil will accumulate at the back of these walls and will in time fill up the dongas, the water that has hitherto wasted away will be thrown on to the surrounding ground, and the belts of trees will prevent the scouring-out process from being renewed.

The effects of forests upon the rain that falls upon them may next be considered. The air within the woods is always more humid and the surface is always shaded from the sun and sheltered from the winds; it is also generally covered with a layer of dead leaves and branches, so that the rain that reaches the earth, although it may be rather less in amount—on account of a certain proportion being retained by the leaves of the trees—is more in effect because it is not readily evaporated; it sinks into the ground instead of running off on the surface. The neighbouring streams may swell after a storm, but more gradually than on treeless areas, and they will subside again more slowly, while greater proportion is retained for future use.

Springs in a wooded region are well known to have a much more uniform supply of water than those in a bare locality, and it has been observed that the clearing of trees has caused streams to dry up, and upon the ground being replanted these streams have again become well supplied with water; it is therefore essential to keep the ground upon which we are dependent for our water supply wooded and the streams shaded.

Belts should be planted to counteract the drying effects of the wind; these should be planted across the direction from whence the prevailing winds blow.

Turning to the disadvantages and dangers of clearing out native forests and bush, we find history continually repeating itself. Mr. B. H. Baden-Powell, in speaking of the Administration of the Forests of India (1877) in the central, high and arid lands, says that in the worst of these there are found traces of ancient cultivation, river beds, now dry, and remains of villages. Another illustration of the effects of destroying the woodlands is found in a French Journal of Forestry* and, for comparison, is placed by its side a description of the same region only about fifty years before:—

About 1876.

"The Khanate of Bucharia presents a striking example of the consequences brought upon a country by clearings. Within a period of thirty years this was one of the most fertile regions of Central Asia, a country

About 1826.

"... The finest provinces of Tartary remain to be described, being generally known under the name of Great Bucharia. . . . The most noted and fertile of all the provinces is that of Sogd, so named from

* "Revue des Eaux et Forêts," March, 1876, p. 93.

which, when well wooded and watered, was a terrestrial paradise. But within the last twenty-five years a mania of clearing has seized upon the inhabitants, and all the great forests have been cut away, and the little that remained was ravaged by fire during a civil war. The consequences were not long in following, and has transformed this country into a kind of arid desert. The water courses are dried up, and the irrigating canals empty. The moving sands of the desert, being no longer restrained by barriers of forests are every day gaining upon the land, and will finish by transforming it into a desert as desolate as the solitudes that separate it from Khiva."

the river that flows through it. 'For eight days,' says Iban Hankol, 'we may travel in the country of Sogd and not be out of one delicious garden. On every side villages, rich corn-fields, fruitful orchards, country houses, gardens, meadows, interspersed by rivulets, reservoirs and canals, present a most lively picture of industry and happiness. The rich valley of Sogd produces so great an abundance of grapes, melons, pears and apples, that they are exported to Persia, and even to Hindostan.' "

As an inevitable consequence of denudation the streams will swell to torrents in the rainy season, and become dry in winter. The mining industry, depending upon a uniform water supply, will share in this misfortune. Therefore it is our duty to conserve—as far as possible—all the bush and native forests in the country, and to add to these by the laying out of fresh plantations of good timber trees.

The discontinuation of the suicidal policy of taking out and not putting back something in its place should appeal to everyone who has really the future prosperity of the country at heart.

It is a simple matter to put say a few acres under trees to commence with, and every year increase the acreage until in the course of a few years quite a good sized plantation is added to the assets of the farm. Let us suppose that the farm is within reasonable distance of a mine or the railway, the farmer has a ready market for his poles and a steady supply of firewood, fencing poles, and rough building timber for the farm; Eucalypt plantations will give a steady supply by pollarding, without cutting out the main crop. An ordinary household in fairly well to do circumstances uses about 5 tons of coal—or its equivalent per year. One acre of Blue-gum copse in fair growth will yield continually ten tons (dry weight) of wood fuel per year.

In the Worcester (Cape) plantation £4,000 was made on the first crop of 60 acres, 16 years old Blue-gum (*Eucalyptus globulus*) after allowing 3 per cent. on the cost of formation and up-keep, the coppice re-growth was denser and stronger than the trees originally planted.

The following extract from a report of Mr. Hutchins (late Conservator of Forests, Cape Colony) will be of interest:—

“Cheap timber is the prime necessity for cheap living in a civilised country, and a lowering of the price of timber should, I submit, be a cardinal point in the policy of every enlightened Government. . . . It is the duty of the Government to encourage and advise the farmers on agricultural matters. In forestry it has to do more. It is the duty of the State to itself produce the timber required. The bulk of the timber required by the nation must be produced in the State forests of the country. This is the verdict of those who have studied the social economy of the matter in the Universities of Europe. It is a verdict that may be slighted, but cannot be gainsaid. If slighted, the penalty has to be paid. England to-day pays £26,000,000 yearly to the foreigner for imported timber, and consoles itself with comfortable free trade maxims. This timber, it has been calculated, could be grown two or three times over on the waste lands of the British Isles. The older nations of Southern Europe have destroyed their forests, and suffer from chronic poverty and a deteriorated climate. The United States of America have destroyed three-fourths of their splendid forest resources, utilised one fourth, and are now getting alarmed at the forest exhaustion with which they are threatened. . . . President Roosevelt, in a recent speech, dwelt strongly on the necessity of forest resources in the making of happy homes. He described, also, the close relation between mining and forestry. Mines cannot be economically worked without abundant wood and water.”

With regard to species and varieties to be planted, I think most of those mentioned in the list appended can be relied upon to give good results. Owing to the dry winter and uncertainty of the rainy season, sowings are not as a rule successful, but a few species can be propagated by these means, viz., most of the *Acacia* family. Practically all the work must be done in the nursery first,

the seed should be sown in tins, and these placed in a house built of reeds or laths so as to protect the young seedlings from the sun and wind. As a rule the tins are covered with grass—placed a few inches above the tin—this prevents the seed being washed out, and tends to keep the soil damp; this grass should be gradually thinned out as the seedlings gain strength, until all is removed. Hard shelled seeds such as Acacias should be soaked in hot water and remain in until the water is cool, they should then be sown immediately, as if allowed to dry, their vitality is soon lost. When the seedlings are large enough, they should be transplanted either into single tins or into a pan made by cutting a paraffin tin in two (long-ways); each of these pans will hold 25 trees.

With regard to the ground to be planted, this should be well ploughed at the end of the rains and left fallow for the winter, then with the first rains again ploughed, harrowed and levelled; the ground is then ready for planting. This should be done by the use of a line and a stick, the stick to be the length of the proposed distance of the trees in the rows; by these means the cost of planting is brought very low; after the planting is finished it will be found necessary to cultivate the ground—both for the purpose of keeping down the weeds and to conserve the moisture; this cultivating can best be done with a horse hoe, with either a mule or a donkey, and will only be necessary (in most cases) for the first two seasons. It is not necessary to fence in the plantations unless there is a fear of cattle or goats getting in among the trees. If there is any likelihood of this happening, they must be protected.

Upon a rocky or broken surface, no attention need be given to the regularity of spaces, the most convenient spots being taken wherever found, but on a level stretch there are great advantages to be gained by planting at fixed intervals; it will be found most convenient to plant at equal distances in both directions.

As a general rule, all trees growing in an open space have a tendency to spread out laterally, and not to grow as high as when surrounded by other trees; the tendency to branch from near the ground is greater in a dry climate and in places exposed to strong winds, it is therefore the practice to plant the trees much nearer together than they would stand when full grown, and to thin them out as they become larger.



Photo by]

Bambusa vulgaris.

[Mr. W. E. Dewart.



Photo by]

Casuarina suberosa var. leptoclada.

[Mrs. E. Dobbin, Borrodale.





Photo by |

Nursery at Rhodes' Matopo Park.

| *Mr. W. E. Dowsett.*

It is an excellent practice in the planting of valuable species to plant them in alternate rows with other trees of more rapid growth but of less value; the latter may be taken out when their shelter is no longer required, and those we wish to preserve have grown so as to soon shelter the whole of the ground.

In planting out, the tins of trees should be carried on to the field and well soaked with water, then if the trees are in single tins they can generally be removed without damage to the root system by merely inverting the tins and tapping gently on a spade handle held by the planter; if the tree be one of 25 in a tin, it can be removed by means of a trowel—care being taken not to damage any of the roots of the plants, but to cut it out with its due proportion of soil. The tree is then placed in the hole made by the planter with his spade or “cuba” and watered—this watering will help to “set” the tree.

About the best age at which conifers, *i.e.*, Pines, Cypress, Junipers, Callitris, Casuarina, etc., should be planted out is when they are two years old, and gums at about four to five months.

The cost of planting is roughly—taking as a basis the cost of labour at a shilling per diem per unit, including “skoff”—2s. per acre; assuming that six boys at 1s. will plant three acres per day, this is not by any means an unreasonable supposition.

Gums should be planted about 5 ft. by 5 ft., and Pines about 4 ft. by 4 ft.

The number of trees to an acre is as follows:—

3 ft. x 3 ft. ...	4,840	4 ft. x 6 ft. ...	1,815
3 ft. x 4 ft. ...	3,629	5 ft. x 5 ft. ...	1,742
4 ft. x 4 ft. ...	2,722	5 ft. x 6 ft. ...	1,459
4 ft. x 5 ft. ...	2,178	6 ft. x 6 ft. ...	1,210

The following list has been compiled from among the trees actually grown at the Matopos, and upon which the most favourable report can be made:—

Bambusa vulgaris.—Common bamboo, for damp localities; a handsome, strong bamboo, useful for whip stocks, ladders.

Callitris calcarata.—Cedar-like wood, very durable, does well in dry localities.

Callitris robusta: Murray cypress.—Cedar-like wood; probably the best *Callitris* for the country.

Casuarina suberosa var. *leptoclada*: Beefwood.—A handsome shade tree.

Cedrela toona: Red Cedar of Australia.—The most valuable timber tree in all Australia.

Cupressus elegans.—A cedar wood.

Dalbergia sisso: Sisu.—A first-rate timber tree, wood untouched by white ants.

E. pilularis: Black-butt or Flintwood (for damp situations, vleis, etc.)—A very fast growing tree, timber good.

E. polyanthemos. Den.—Splendid drought register, timber very durable. Growing at Matopos and at Salisbury.

E. saligna: *Saligna* Gum.—Splendid wind-break, valuable timber. Good for red soils or sand.

E. tereticornis: *Tereticornis* Gum.—Very superior timber. Quick grower.

Juniperus Bermudiana: Pencil Cedar.—A first-rate timber tree. Good frost and drought resister.

J. Virginiana: Pencil Cedar.—Slow growing. Timber valuable. Good frost and drought register.

Pinus Canariensis: Canary Pine.—Valuable timber. Handsome tree.

P. halepensis: Jerusalem Pine.—Good drought register. So far the best pine up here.

Populus alba: White Poplar.—For damp situations. Splendid wind-breaks.

Robinia pseudacacia: Robinia.—Good drought and frost resister. Stems make good split fencing posts. It has been largely planted in the Karroo with great success.

The Erosion of Soil.

By LIONEL CRIPPS, Umtali.

I need make no apology for intruding this subject upon your notice, as the title I have chosen for this paper sufficiently proclaims its importance. It is not my intention to lay down the law, but, by a few timely observations and suggestions, to furnish food for thought and discussion. Let us first consider the factors, which, given time and opportunity, are capable of robbing us of the chief asset which we, as farmers and landowners, possess. The asset I refer to is the top twelve inches, more or less, of soil, which furnishes food for the native plants and the crops upon which we are dependent for our living. The principal causes of the washing away of soil are undoubtedly the torrential rains to which we are liable, and which, while bringing many blessings in their train, are also a terror and a bane to the country, and can, in a few minutes do such wholesale damage that the victims of their fury are left limp and aghast. These rains are of yearly occurrence, and must be reckoned with, not as exceptional phenomena, but as normal events which, however terrible in themselves, are unable to do damage unless assisted by the handiwork of man, who, like a prodigal, is ever ready to waste his substance. It is by overstocking and improperly tilling his land that man lends his assistance to the wind and rain, and to save himself from the ruin that can be wrought, it is necessary that he take time by the forelock and realise the truth of the old saying, that prevention is better than cure. It does not seem likely that the evils of overstocking will overwhelm us for some years to come, but it will be well for us all to look to our ways, and see that the small lots of stock we do possess do not unduly damage our pastures, but rather improve and make them ready for the trampling millions yet to come. I am not going to enlarge upon the evils of herding and kraaling, as of these all are well aware. Their effects, however, we can minimise by taking care that the stock paths do not grow too wide and deep.

Tilling of the land is one of the chief causes of loss of much valuable soil, and it is for us to think out ways and means for preventing this. It is customary, on some

farms, to cut a trench on the upper side of cultivated land to carry off storm water before it can reach loosened soil, but this plan cannot be thoroughly effective if the cultivated area is of great width, as then the rainfall on that alone is sufficient to do a great deal of damage. Speaking from experience, I would suggest that the land be cultivated in narrow strips, thirty to one hundred yards in width, according to the slope of the ground, and that, at least, six feet of virgin veld be left on the lower side of each strip. Thorough cultivation of growing crops and orchards is often recommended, as a counsel of perfection, but I feel certain that this can be overdone in this country, with resultant loss of much soil. It is better to get a smaller crop and save the soil than by thorough cultivation to endeavour to secure a larger return and lose soil that can never be replaced. It is advisable to watch used and unused roads, and to divert the rain-rush from the wheel ruts. For this purpose branches placed butt uphill in the ruts have been found very effective, as they serve the double purposes of checking the flow of water and of causing the ruts to silt up.

In conclusion, we may say that we have as a guide the experience of other countries where former fertile pastures are now howling deserts, and where the ever recurring cry of drought is the direct result of bad systems of farming, and of overstocking, causing a reckless waste of natural resources. To those who live on the Rhodesian highlands, from which the rainwater rapidly drains off, it is especially important to exercise care, to conserve our resources, and so order their farming methods that they, while getting good value out of the land, shall leave it to posterity, richer, and better worth living on than they found it.

The South African Irrigation Congress, Robertson, C.C.

At the request of the Administrator, Mr. J. A. Edmonds, President of the Southern Rhodesia Agricultural Union, visited Robertson, in the Western Province of Cape Colony, in order to represent this Territory officially. The following report of his visit will no doubt be read with interest, and his kindness in leaving his private avocations on behalf of the common good will be duly appreciated.

The Congress opened on the 18th May in the Y.M.C.A. Hall. Thirty-two delegates were elected by Farmers' Associations, eighteen by existing and proposed Irrigation Boards, and thirty-four representative people of Cape Colony were invited to attend the Congress. Seven delegates were nominated by the Transvaal Government, seven by the Orange River Colony Government, one was elected by the Agricultural Union of Natal, and one by the Rhodesian Government.

The members of the Congress were the guests of the Breede River Irrigation Board at Robertson. The excellent arrangements provided by Mr. A. G. H. Teubes, Secretary to the Congress, and the Hon. H. C. van Zyl, Chairman of the Breede River Board, being much appreciated.

The Hon. J. X. Merriman, Prime Minister, presided, and delivered the inaugural address.

Addresses of welcome were read on behalf of the Town Council and the Divisional Council, and were acknowledged by the Prime Minister.

The reading of papers occupied the attention of Congress during the day, evening sittings being held to enable delegates to discuss matters and acquire information.

The following papers were read at the Congress:—

1. Irrigation Development in the Cape Colony: Past, Present, and Future, by Mr. F. E. Kanthack, A.M.I.C.E., Director of Irrigation, C.C.
2. Paper by Mr. O. H. Oosthuisen, M.L.A.
3. Labour Colony Irrigation Settlements, by Rev. B. P. J. Marchand, B.A.

4. Physical Relations of Water to Soil, and their Applications in Agriculture, by Dr. P. H. Hahn, M.A., Ph.D.
5. The Erosion of the Veld, and the Conservation of our National Resources, by Mr. E. R. Bradfield.
6. Irrigation with special reference to Pumping Plants, by Mr. W. Ingham, M.I.C.E., M.I.M.E.
7. Brack Soils, their Cause, Cultivation and Cure, by Dr. C. F. Juritz, M.A., F.I.C.
8. Some Aids to Irrigation, by Prof. H. Payne, M.I.C.E., M.I.M.E.
9. Irrigation in the Transvaal, by the Chief Irrigation Engineer, Transvaal.

These interesting papers were much appreciated by the delegates, and gave rise to animated discussions.

On Wednesday, the 19th May, an expedition was made to the intake of the Breede River Canal Works, about six miles from Robertson. Refreshments were provided at Mr. Du Toit's farm, and the weir inspected. On the return journey the furrow was inspected, and also some "brak" land restored by drainage. The weir across the Breede River was of peculiar interest, being constructed of concrete on a sand foundation.

On Friday, the 21st May, most of the delegates left Robertson by special train for Nuy Siding. The owners of the farms in the Nuy River Valley and the members of the Nuy River Irrigation Board provided vehicles to the Nuy Valley to inspect the works constructed by the Irrigation Board under a loan from Government.

The delegates were then most sumptuously entertained at the residence of Mr. P. Rabie by the proprietors of farms in the Nuy River Valley. Time did not permit of a visit being made to the irrigation works in the Norma Kloof, also constructed by means of a Government loan.

Some interesting details were given me by Mr. Scaife, District Engineer, with regard to the Nuy River Valley Irrigation Works. These works were constructed by some thirteen farmers acting in co-operation, assisted by Government loan. The cost of the scheme was some £16,000, the canal being seventeen miles long, taking four and a half years to construct, and costing from £2 to £50 per mile.

The cost of the Breede River Works was some £12,000, the land brought under irrigation increasing in value from £2 to £60 per morgen. The soil conditions of this valley are most interesting, the lime deposits being very near the surface in places. Most of this land is under cultivation to lucerne, paddocked off, and fed by ostriches, which yield a profit of £5 per bird per annum, provided the feathers are of good quality—an acre of lucerne carrying about four birds per annum.

The calabash pipe industry draws a considerable portion of the necessary "calabash stem" from this part of the world.

The rainfall in the Robertson district averages only some 12 inches per annum, and the enterprising co-operation of the farmers of that district provides a valuable object lesson of the power of water, rightly applied, to make the desert "bloom as the rose."

The fine horses bred in this district were a subject of great comment amongst delegates.

The control of these irrigation schemes is in the hands of the farmers themselves, who elect their own Board, and act within well defined powers.

I gathered that large State schemes were considered unworkable in South Africa, and that the smaller irrigation schemes are far more profitable than the larger ones. The proposed Ashton Canal will cost some £9 per acre, brought under water, as against some £4 per acre in the Nuy Valley Works. In America the cost works out at about 30s. per acre.

With reference to Southern Rhodesia, I am under the impression that the time is certainly ripe to consider the advisability of at once engaging the services of an officer competent to lay out irrigation schemes, to inspect and advise on boring operations; also to advise farmers generally with regard to steam engines, suction gas plants, oil engines and other machinery.

When it is possible to do so, it will be of extreme value to Rhodesia to assign funds to be applied as loans, at a small rate of interest, say $3\frac{1}{2}$ per cent., for co-operative irrigation schemes amongst farmers, as is done in the Transvaal and Cape Colony. Great advantage is being taken of the facilities offered in this direction by our neighbours of the South.

Although we have an ample rainfall in Southern Rhodesia, it is not well distributed throughout the twelve months; generally speaking we have seven months of drought. If water, by irrigation, can be at all generally applied during these periods, it will mean an enormous increase to the products of Rhodesia, in the shape of dairy produce, vegetables, fodder plants, cereals, etc.

In connection with the general discussions on irrigation, two points were considerably emphasised:—

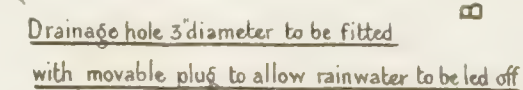
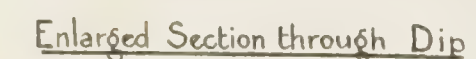
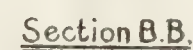
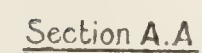
1. That far more harm was done to land and crops by an over application of water, than by under watering.
2. That refraining from grass burning means permanency of streams.

On a motion of the Hon. Dr. Smartt, it was decided to establish a permanent Irrigators' Association, in which provision has been made for the entry of Rhodesian representatives.

Many speakers alluded to the note of good fellowship and co-operation struck throughout the proceedings of the Congress, and the determination of all farmers, irrespective of race, to unite for the common good in the development of South Africa.

The agenda and minutes of the Congress, with the full text of all papers read, and notes of the discussions, will be printed in English and Dutch, and available shortly.

PLAN OF DIPPING TANK.



Dipping and Spraying of Cattle.

By THE EDITOR.

Following on the article by Mr. Edmonds, G.V.S., which appeared in our June issue, some interesting contributions have reached us on the question of the best means of eradicating ticks, and as these are all closely related, it has been thought best to continue them under one head. A defence of the system of spraying is given the first place, details follow for the construction of dipping tanks, towards which a Government grant may be given, and finally some particulars are given of a modification in the construction of tanks for which several advantages are claimed, and which certainly deserves careful watching and every encouragement. The case against spraying having been given in the article above referred to, it is but right to hear Mr. Stirling, G.V.S., of Umtali, for the defence.

SUCCESSFUL SPRAYING.—I have read with pleasure the article on ticks and their destruction, from a report by Mr. C. R. Edmonds, G.V.S., Bulawayo, in the June number of the Journal, and would like to make a few remarks in this connection. During the past fifteen months most of my time has been spent in dealing with temperature camps for the eradication of African Coast Fever, and I have gained a certain amount of experience with regard to spraying of cattle for the destruction of ticks and its efficacy or otherwise. My experience goes to prove that spraying, if properly carried out, is a perfectly satisfactory method of destroying ticks, but it must be done thoroughly. In 1908 I was in charge of a temperature camp at Forest Farm, Umtali, and there had a herd of over 400 head, all rather badly infested with ticks, but within three weeks of commencing operations it would have been difficult, without a very careful examination, to discover living ticks on any one of the cattle.

The method adopted was as follows: The material used was Cooper's sheep dip, in the strength of one packet to 18 gallons of water, mixed according to directions on the packet.

TIME BETWEEN SPRAYING.—The second spraying was done after seven days' interval, the third at ten, and after that at intervals of a fortnight, and I think that the last interval could be increased to three weeks on a farm where spraying had been done for some considerable time.

A crush pen was erected at the gate of the kraal sufficient to hold five head of cattle for temperature taking, and into this four head were driven, thus allowing the animals to turn round with ease and present every portion of their bodies to the sprays, which were worked at two sides of the pen. After the cessation of the spraying, the animals remained in the pen for the space of about three minutes, and were then liberated on to a clearing near the kraal. This ground had previously been scuffled, and all green stuff removed from it, and there they stood until thoroughly dry.

The one great objection I found was the amount of material that was wasted, and which formed a muddy mixture on the ground of the pen. In order to obviate this I had the pen reconstructed with a decided slope from side to side in the direction of a channel, which carried all the superfluous material to a deep hole dug out at the side of the pen. When the spraying was finished, the hole was covered in and protected, so that the cattle were prevented from even licking the ground on which dip had fallen.

Now Mr. Edmonds in his excellent article mentions three objections to spraying as a method of tick destruction.

(1) WASTE OF DIPPING MATERIAL.—I do not think that this would amount to a great deal if the farmer built a good permanent pen with a brick and dagga floor and with a channel carrying the dip out of the pen and into a receptacle placed in the pit, and used again after the dirt, etc., was allowed to settle so that the super-imposed fluid could be run off free from material likely to interfere with the working of the pump.

(2) TIME REQUIRED AND THE NUMBER OF HANDS.—Giving six minutes to each lot of four cattle it means about $2\frac{1}{2}$ hours for 100 head, and as a saving of time it would be easy to erect two pens with a passage way between them in which one spray pump could be worked four or five hours once a fortnight or three weeks, is not too much time to spend in order to keep a herd of 200 head clean

from ticks and free from the results that these may bring about. With regard to the number of hands, I found that it was easy to spray 400 head with six boys.

(3) COST OF SPRAY PUMP OWING TO THE DIFFERENT PARTS GETTING OUT OF ORDER.—I may have been fortunate, but the only inconvenience that I ever suffered was from the perishing of the rubber tubing, a matter easily remedied.

I must express my thanks to Mr. Edmonds for bringing the matter of tick destruction before the public, and I hope that farmers will be encouraged to express their views as to the methods they have found most satisfactory. It is only by discussion of such articles as Mr. Edmonds has written that both the farmers and the Department will gain experience in what I regard as a most urgent detail in satisfactory cattle breeding.

The chief point to notice in the foregoing remarks is that the spraying must be done thoroughly. In practice we find too often where spraying is insisted upon by law that it is carried out in a perfunctory fashion, and the system blamed for what is the fault only of those who have scamped their work. The converse is of course true, and cases of injury to the skin of the animal from over severe spraying is not uncommon. On the other hand, the plunge cannot fail to be effective, but the charge of causing death is often brought, unfairly however, not only to all the ticks, but to the cattle as well. Dipping has, it must not be forgotten, become the recognised method of tick destruction throughout the Cape Colony, Natal, Orange River Colony, and Transvaal, where pure arsenite of soda is often used in place of the proprietary dips, in which of course arsenic is the principle ingredient. Where only a few years back the idea of dipping was scorned and ridiculed, it is now universally practised, and with the best results.

THE CONSTRUCTION OF DIPPING TANKS FOR CATTLE.—To encourage the construction of dipping tanks, the Government of Southern Rhodesia grants financial aid to the extent of half the cost, but not exceeding £50 in any one instance. Applications for this assistance should be addressed to the Director of Agriculture, Salisbury. The following particulars have been kindly prepared by the

Public Works Department, and may be regarded as furnishing a model estimate of the specifications of work to be done and materials to be used in the construction of a dipping tank on the lines of the accompanying drawings.

CEMENT.—The cement to be Portland and of the best quality (White Bros. preferred).

POSTS.—The posts for race and yards to be Mopani or Mahobohobo if procurable, to be not less than 5 in. in diameter at the small end, stripped of bark and well carbolineumed before fixing. The posts must be dressed quite clean to prevent injury to cattle.

STONE.—Stone for concrete to be the best clean granite or quartz, no stone to be larger than will pass through a 2 in. ring (any way). If quartz rubble is used, it must be thoroughly well washed before mixing.

WATER.—Water to be clean and free from organic impurities.

SAND.—Sand to be the best clean sharp granite grit, to be free from loam or vegetable matter, and if necessary to be thoroughly well washed before using.

WIRE.—Wire to be four barb, two ply, with barbs 6 in. apart.

RAILS.—Rails to be deal, clean and free from knots and splints. Native timber may be used for rails wherever procurable, but it must be perfectly straight and quite free from knobs or projections that might cause injury to animals.

EXCAVATION.—Excavate for tank to the dimensions shown on drawings. No more ground must be taken out than is actually necessary. Remove all surplus soils and spread where directed. Before commencing to lay concrete, the bottom of all excavations must be well watered and well rammed. Well ram all round the walls of tank as the work proceeds.

CONCRETE.—The whole of the materials to be accurately measured in boxes or empty cement casks. The concrete to be composed of five parts broken stone, three parts good sharp sand, and one of cement, to be turned over twice in a dry state, and twice in a wet state, and when laid in place to be thoroughly well rammed. The concrete must be mixed on a wooden platform, and not on the

bare ground. The water must not be thrown on in buckets, but be sprinkled on through a fine rose. The two sides and ends of the tank must be completed first, and the floors laid last of all. In mixing concrete old material must not be incorporated in the new mixing. The concrete must be laid down immediately after mixing. All concrete must be laid in boxes made with $1\frac{1}{2}$ in. boards, and no layer must exceed twelve inches in height. Every old layer must be well wetted before commencing to lay fresh concrete. Lay barbed wires in the position shown on section, to run right round the tank, and all to unite, top, bottom, and side wires.

The surface of floor in race, in draining pen, and bottom of tank must be floated up with one of cement to three of sharp sand, to be well trowelled and brought to a smooth fine face. The edge of floor of race, at entrance of tank, must be rounded. The surface of slope leading out of tank is to be finished rough, for foothold for cattle, by raking up the surface after ramming. The floor of draining pen must be 4 in. thick at the sides, and to slope $\frac{1}{2}$ in. towards the centre. Near the entrance to tank leave a hole in the floor of draining pen, to be 3 in. in diameter, fitted with a 2 in. outlet pipe. Fit a wooden plug with an iron top and ring. The plug must be left in place when dipping, and should be removed during rains to prevent rain water running into the tank. On each side of the race lay a dwarf wall of concrete, to be 4 in. wide, to prevent dip washing over the floor of race when cattle enter the tank. The wall will start from ground level, and will be 9 in. high at the end near tank. After completion, plaster the whole of the walls of tank inside and out with one of cement and three of sharp sand, steel trowelled, to be not less than $\frac{1}{2}$ in. thick, walls well wetted before plastering.

All concrete must be kept well watered as the work proceeds, and all walls to be well wetted for a week after completion. The floors of tank, race and draining pen must be covered with wet sand for 14 days after completion. The floors of race and draining pen must be V jointed diagonally from the centre to sides every 18 inches, joints $\frac{1}{4}$ in. deep. All concrete must be thoroughly well rammed and kept wet as the work proceeds. The concrete must be laid as quickly as possible, and the whole of the materials must be on the ground before commencing to mix concrete. All concrete must be mixed under supervision,

and the contractor must give due notice of his intention to lay same before commencing work.

FENCING.—The whole of the posts must be of Mopani or Mohobohobo, to be not less than 5 in. diameter at the small end, stripped of bark, and well carbolineumed before fixing. The race will be of solid poles, planted as close together as possible, let into the ground two feet and well rammed. Posts for yards to be not more than 10 feet from centre to centre, let into ground 18 inches, and well rammed. All posts must be 6 feet above the ground, and free from knobs or projections.

Well spike to posts round the whole of the yards and enclosures, three 3 in. by $2\frac{1}{4}$ in. rails, to be the distance apart shown, all well carbolineumed before fixing.

Fix three 3 in. by 3 in. slip rails where shown on plans, to be fixed in strong wire loops well stapled to posts. All posts should be sound and free from heart shakes. Fix rails diagonally across the ends of the tank where shown on plan to prevent animals jumping on to wall of tank.

Quantities of materials required for a tank as above described:—

One piece of 2 in. pipe, 6 ft. long.

Rails, 6—12 3 x $2\frac{1}{4}$

do. 12—14 3 x $2\frac{1}{4}$

do. 48—20 3 x $2\frac{1}{4}$

Slip rails, 6—10 3 x 3

do. 3—15 3 x 3

(Native wood may be used in the place of imported timber.)

80 posts 5 in. diameter, 7 ft. 6 in. long.

30 posts 5 in. diameter, 8 ft. long.

$1\frac{1}{2}$ coils barbed wire.

15 gallons Carbolineum.

50 lbs. 5 in. spikes.

33 casks cement.

25 cubic yards broken stone.

18 cubic yards sand.

It should be well understood that these particulars are meant only as a general guide, especially as regards strength and dimensions, but it is not intended to regard

rigid adherence thereto, as a *sine qua non* of securing the grant in aid. This may, however, be regarded as a minimum for this type of tank, and an admitted improvement would be no doubt to have the swim longer, so as to ensure saturation of the coat and destruction of the ticks.

THE EDMONDS DIPPING TANK.—An attempt to combine the advantages, and overcome the drawbacks of both methods has quite lately been devised and named after its inventor, Mr. Edmonds, M.R.C.V.S., of Bulawayo, who seeks no patent rights, but courts a trial, and welcomes improvements on his original idea. To this end a full-sized working model was exhibited at the recent Agricultural Show at Bulawayo, which was reported upon by a committee, consisting of the Director of Agriculture, the Chief Veterinary Surgeon, Messrs. McLaurin, Partridge, J. A. Edmonds, Woods, Fleming, King, W. G. Mason, and Major Gordon, to the following effect:—

We, the Committee appointed to report upon the Edmonds Dipping Tank, have examined this contrivance, and desire to express approval of the system as one well suited to the needs of Southern Rhodesia, where economy in construction and dipping material is a more urgent need than rapidity of handling stock.

We regard this method as likely to be a great saving in prime cost and in use, and commend it for its simplicity.

It is suited to all sorts of stock, for cows in calf, and for treating the feet only in cases of foot rot or the like, with modifications for sheep dipping, while we consider there is less likelihood of animals taking poison internally by this process than the usual method.

The Committee is given to understand that if the metal tank as exhibited be coated with tar inside and out once a year it should last seven years, and that in actual use an upcast filter will be supplied to the reservoir, which will also be placed higher, so as to give a greater pressure to the spray, and that spraying nozzles will be fitted to the hose pipes.

It is considered that a tank with a capacity of 600 gallons—a great reduction on that of the plunge tank—should suffice, while as possible improvement it is suggested that the breadth of the floor be reduced to 18 inches, while maintaining the present width at the top, and the slope

at the entrance be made less steep. Modifications in the arrangement of the filters, tanks, and gate are possible.

To contain one animal at a time the tank may be made 8 inches shorter than that inspected; if 3 feet longer it could hold two head at once.

The durability of the structure has yet to be proved, and it is regretted that a price has not been given as a guide for comparison, but it is probably less than half that of tanks as at present built, even if the tank be made of concrete in place of metal, which is quite feasible where this material is preferred.

In actual operation the dip was demonstrated to work effectively and quite satisfactorily.

While commending the idea as an excellent one, and likely to prove a boon to farmers in Southern Rhodesia, we suggest that trials be made with various dipping preparations under this new system.

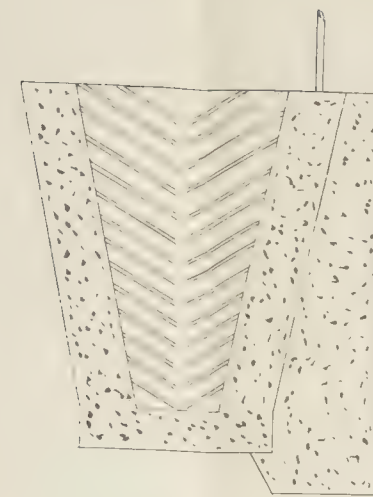
The dipping tank above referred to was constructed by Messrs. Felgate & Co., Selbaine Avenue, Bulawayo, and may be briefly described as, consisting of a tank of 20 gauge iron, strengthened with D-shaped ribs every 15 inches, of a total length of 30 feet, of which 12 feet at each end were occupied by slopes, the central 6 feet representing the level floor of the tank, the depth of which was 4 feet 6 inches. The width at the top was 4 feet, and at the bottom 2 feet. The whole floor supported a wooden frame, on which rested a cocoanut mat to serve as a filter when the dipping fluid should be drained off. A second, and upcast, filter was fitted in a tank placed at an elevation of some 10 feet above ground, to hold 600 gallons of dip. The animal to be treated walks down into the tank, where it stands chest deep in the fluid while two sprays play upon its head, sides and tail, with pressure derived from the tank above. From experience gained from this first attempt, it is proposed further to experiment with the system, and to erect other tanks on the same lines, but with the alterations indicated in the above recommendations of the Committee. We publish drawings of an experimental tank on these lines to be erected on Arlington, the farm of Mr. W. H. Brown, M.L.C., near Salisbury. The material used is concrete throughout, the filter instead of extending along the floor is placed at one side, the dimensions are amended, and the spraying is done by means of a force pump in place of the overhead tank.

Improved "Edmonds" Dipping Tank.

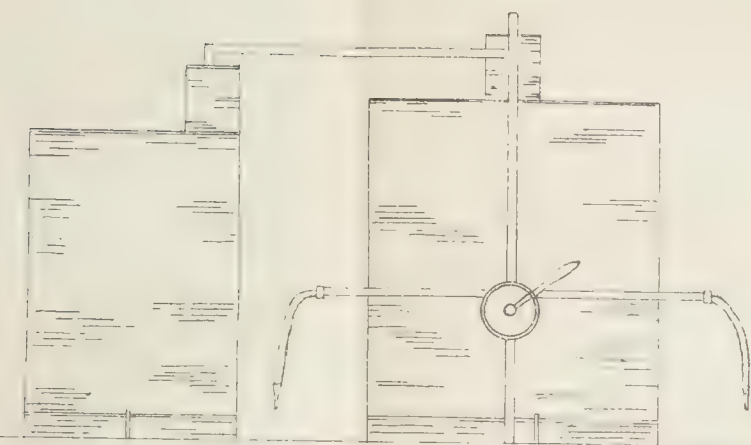
$\frac{1}{4}$ " SCALE.

A. J. MacLaurin.

Salisbury, July 12th, 1909.



Section C.D.



Section A.B.

Draining Pen.

Sheep
Dipping
Fluid.

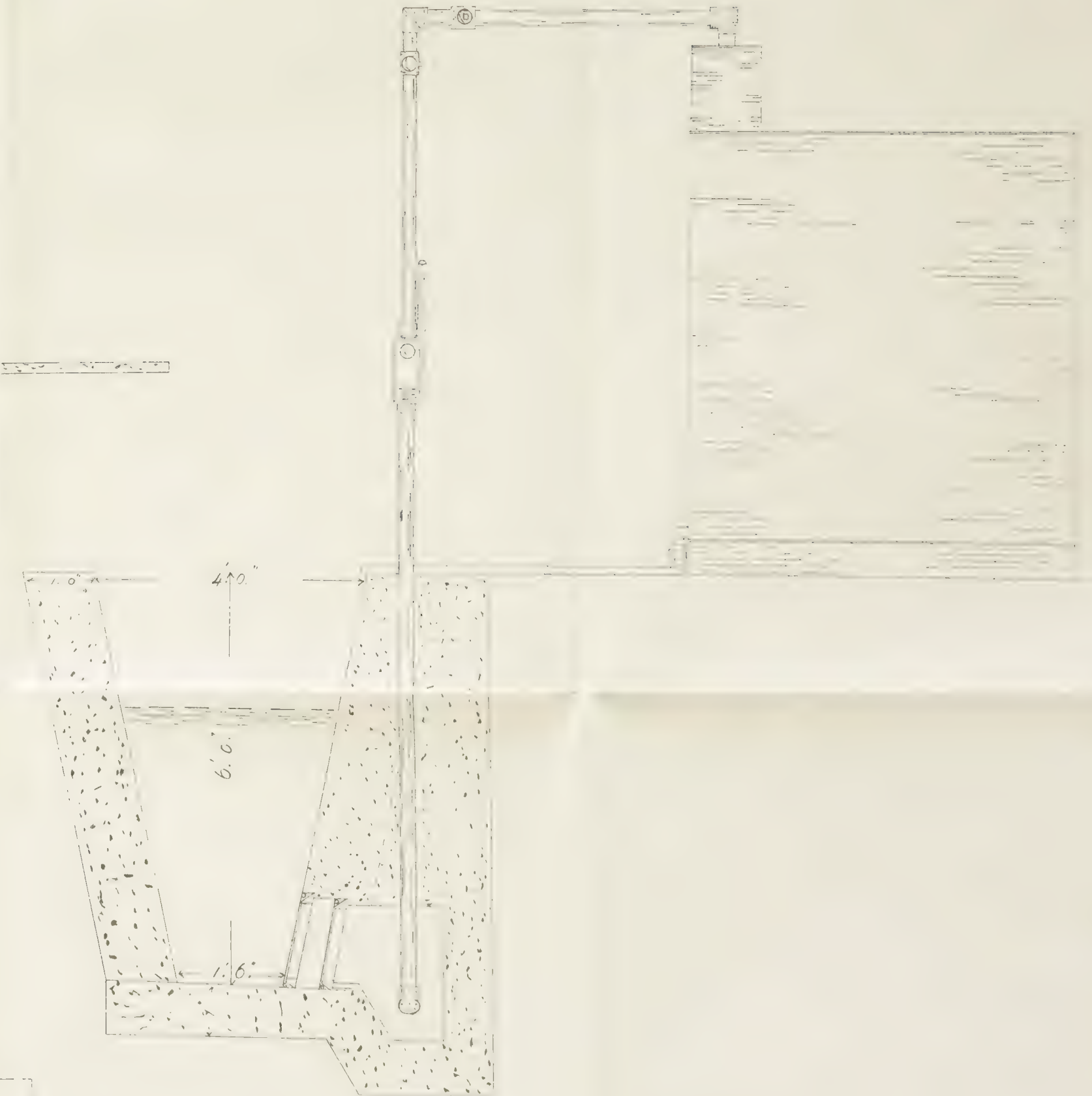
Cattle
Dipping
Fluid.

C.

B.

D.

PLAN.
28' 0"



Enlarged Section C.D.

$\frac{1}{2}$ " Scale.

Filtration of the dipping fluid, the use of much less at a time, avoidance of the plunge and economy of construction, and by the use of two storage tanks, its use for both cattle and sheep dips are the merits claimed, and while likely to be realised, it yet remains to be seen from actual use how far this process is in advance on the recognised methods of dipping or spraying. Messrs. McLaurin and J. A. Edmonds, of Salisbury, are so favourably impressed with the idea that they both meditate erecting tanks on these lines. This enterprise is to be commended, and the results will be looked forward to with much interest. Should it prove successful, the method will go far to solve the problem of tick destruction in small herds, and by private individuals on their own farms, and the era of universal dipping will have been brought sensibly nearer.

Hedges for Farm and Garden.

By C. E. F. ALLEN, Agricultural Assistant..

The known varieties of good hedge plants for this country are only a few. A great deal is asked of a plant to become an ideal one for this purpose, and a few respond efficiently. It is a fairly conspicuous fact in many of our suburban gardens that hedges are not given sufficient attention, and unless improvements are effected in this direction, poor results will continue to be common. Well trimmed hedges and lawns planted with stately specimen trees can only be possessed by the keen gardener, who spares no trouble in attending to his plants.

On the farm live hedges will only be possible on a large scale when the farmer has the development of his lands well in hand, and can keep fire paths cut at the beginning of each dry season. Hedges round his paddocks and homestead are, however, easily cared for.

The qualities that go towards the making of a hedge-plant are as follows: It should be white-ant resistant, drought resistant, wholly, or almost wholly evergreen, a moderately fast and even grower, with a not too spreading root system, compact in character, sturdy in growth so as

to obstruct trespassers, and be a long lived, and lastly, though perhaps not the least desirable virtue, it should be a good thing to look at.

A flowering hedge is an immense asset to the suburban garden. I do not remember any more beautiful hedges in the gardens of England than those of the *Plumbago capensis*, to be seen at Cape Town, when the delicate blue blooms, still spoken of as Rhodes's favourite flowers, are in full bloom. This plant is essentially suited for garden planting, and with care should make good growth in the higher parts of this country.

Another garden hedge plant is the *Duranta*, both blue and white flowering varieties. In the Punjab of India this is more common than any other plant, and is highly ornamental. At the Victoria Falls it grows well, but requires a good deal of care during the dry season, and would probably only grow well in sheltered parts. It is a valuable plant in a colour scheme, as the flowering period extends over two months. Once a hedge is established, cuttings are easily rooted for future planting. In the initial planting, seed would have to be obtained; this germinates freely, but the growth is slow. Cuttings which root freely, and make good growth are therefore the better means of propagation, once sufficient material is to hand. These two plants can be kept down to a hedge of from 3 to 5 feet in height. A larger garden hedge can be made with the Flamboyant, *Poinciana regia* (the flame tree of the West Indies), so called from the scarlet flowers produced in profusion, which, although a tree of from 30 to 40 feet in many countries, does not generally grow to more than 20 feet with us. *Poinciana pulcherrima*, a smaller species of this genus, is perhaps more suitable, as it never reaches the same dimensions as the Flamboyant. Plants raised from seed in this country flower in two years from sowing, and when not in flower the feathery leaves make a handsome hedge. It also has an enhanced value in being naturally free from pests.

Several varieties of the Mulberry are in use as hedge plants in Rhodesia, but their spreading, untidy habit, does not recommend them for garden planting. On the farm, however, they are useful. The cuttings put in during the rains, December and January, root readily, and grow freely, and in two to three years make good wind breaks, and provide useful sticks for a variety of purposes on the

farm. In planting Mulberry hedges I should recommend planting at least two rows, and even three at a distance of 4 x 4 feet in the rows and between. In a bad season it is difficult to keep the stock from eating the young shoots of this plant, which should be at any rate a further encouragement to the stock owner to plant it.

I have not yet mentioned a hedge that will keep out intruders on a farm, but I have in mind a plant that commends itself for this purpose, that is the Kei Apple, *Zizyphus jujuba*, a very thorny fast growing, though fairly compact shrub, a native of the West Indies, and probably also of South Africa. I have planted this bush in this country, and it reached a height of 8 feet in three years. No ox could penetrate a hedge of this bush once it has developed. A paddock enclosed with it would be at least an improvement on the barbed wire enclosures that are generally used. Another benefit derived would be the shelter from the winds, and a more pronounced feeling of security to the cattle. The fruit also makes a delicious jelly.

A hedge plant that recommends itself to the writer is the Mazoe lemon; plants of this are easily obtained in the Salisbury district from seed. It would make a high, bold hedge, and be always evergreen, and if the situation suited its growth, would be indeed difficult to beat. The Lime, *Citrus medica*, is largely used in India as a garden hedge.

A further form of hedge which would probably be only practical in small paddocks is obtained by placing poles of certain varieties of the indigenous trees of the country close together, which take root and grow into a permanent live hedge.

There are several species of ficus which are said to have this rather extraordinary degree of vitality. I have not actually seen these growing, but two trees common in Matabeleland have this quality: one is *Pterocarpus angolensis*, the "Mookwa" of Barotseland, and the other is *Ricinodendron Rautanenii*, the "Mongongo" tree which bears an edible nut, the shells of which are used in paving the floors of Native and European huts in North-West Rhodesia. A fence of this character can, as a rule, only be recommended in those parts of the country where the farmer is fighting against the heavy growth of bush for land in which he can work the plough, and there are likely in the future to be more farmers in this predicament as

the open lands become tenanted, and new-comers are forced out into wooded country. There is a good deal to be said for this kind of boundary to farms, and some farmers are already aware of the utility of the practice.

In planting a hedge round lands on a farm, a few deep furrows made by the use of the disc plough, and then harrowed, is all that is necessary for planting, and after the cultivator should be used occasionally to keep the soil open and the weeds down.

Garden hedges might be treated with more indulgence, and a good trench dug about two feet deep by two feet broad, and if the soil is not satisfactory, new soil, or at least manure or sand, whichever is required, added in the filling up of the trench.

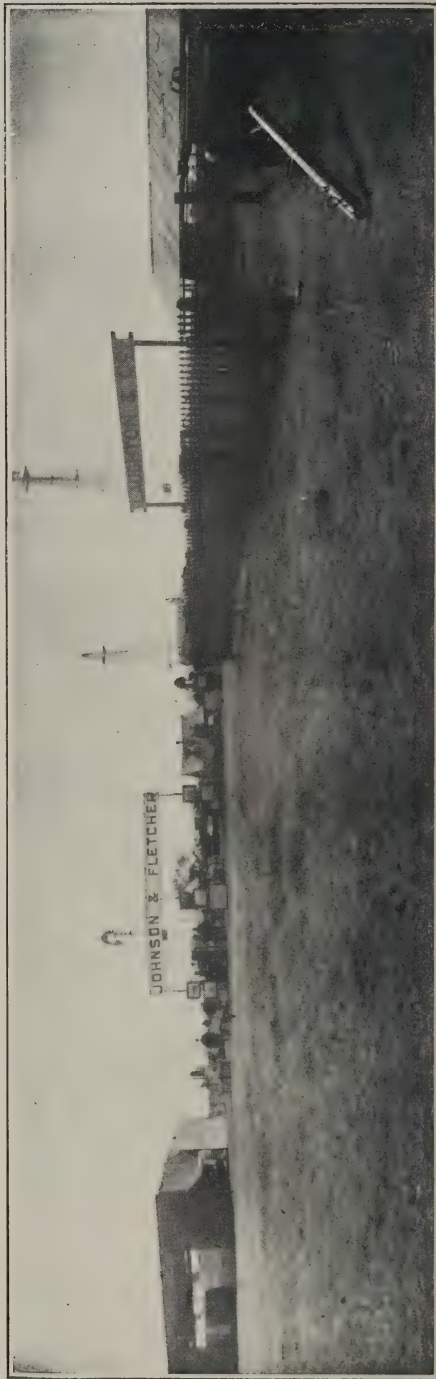
In all hedge growing the art of pruning has to be carefully studied in order to eventually produce the perfect hedge, the aim and object in view, to make a live wall, must be kept constantly in mind. Too vigorous shoots must be checked to obtain evenness and completeness. Wedge shaped trimming is preferable to the square topped hedge. In the case of any pest developing in the hedge, spraying with a paraffin emulsion should be repeated every other day until the plant is cleaned.

Hedges have a value in all countries, in the field and garden, and as the country develops, so they will be planted, until they will meet the eye when looking over some of the fertile valleys of Rhodesia, marking off one farm from the other, while to the suburban garden they will add the charm of privacy and quietness.

Views at the Bulawayo Show.



Judging in the Cattle Pens.



Photos by]

In the Implement Yard.

[J. S. Loosely.

The Shows.

By C. E. F. ALLEN, Agricultural Assistant.

The month of June was a busy one for those interested in the Annual Agricultural Shows.

THE UMTALI SHOW.—The first show held was at Umtali on the 11th of the month. The show was honoured by a visit from His Excellency the Commandant of Manica, Sehnor and Madame Perri de Lind and suite, and was well attended by the townspeople and farmers, who evinced great interest in the exhibits. The produce section was a prominent feature of the exhibition. Mealies and other cereals and beans were all of good quality, indeed their high merit all round was characteristic of the exhibits shown by Mr. A. N. Strickland, of Penhalonga, Mr. L. Cripps, and Mr. Waight, of the Premier Estates. The Old Umtali Mission gained the special prize given by His Honour the Administrator for the best mealies on the cob.

The exhibition of brooms made by the natives of the American Episcopal Methodist Mission from the broom corn grown on the Mission farm at Mutambarra, was one of the most interesting exhibits seen at the show; at the same time it was somewhat of a disappointment to find that the handles had been imported, when local bamboo or mulberry might serve the purpose. The Rev. Mr. Woodhouse, the Principal of the Mission, stated that he expected to be able to supply the market of Rhodesia with brooms in about two years at the same cost as that of the present imported article. Great credit is due to the Mission in having grown the broom corn, and after reaping it having brought it to its complete economic use in making these brooms, thus establishing what may become a very useful industry to the country. The beginning of another industry was indicated in the exhibition of Rhodesian spinning and weaving shown by Miss Guildson, of Melsetter.

Tobacco exhibits were not numerous, the tobacco that took the principal prizes came from Mr. Deall of the Experimental Farms. No cattle were shown at the show, but some good sheep, those of particular interest being the Persians from the Premier Estate, a Merino ram and ewes bred by Mr. Wienholt on the Rhodes Inyanga Estates.

These latter are a forerunner of what this country will produce when the veld becomes tame, and there are cattle on it to keep the herbage fed down. Some imported Shropshire ewes were shown by Mr. E. F. Sheppy. The enterprise of this gentleman was certainly largely instrumental in securing the successes at both the Salisbury and Umtali Shows. Some cross-bred Rhodesian ewes belonging to Mr. A. N. Strickland looked very promising for this class. There was no special prize list; however, the owner will probably reap his own reward in continuing his efforts in this direction. The gold medal for the champion ram for mutton was easily gained by Mr. Waight with a fine specimen of a Persian ram, and the Championship Gold Medal for a woolled ram was taken by Mr. Wienholt of the Rhodes' Farms. Mr. J. Meikle won the gold medal for the best Boer ram. Pigs were there in quality more than in quantity. Some large British blacks were especially admired. Berkshires shown by Mr. E. F. Sheppy were creditably represented. The poultry section was of considerable interest. Mr. W. C. Blands, Umtali, showed birds, being a valuable illustration of what can be done with poultry in this country, provided proper care is given to their wants. His Minorcas would be difficult to beat in any part of South Africa. Mr. E. F. Sheppy had a fine collection of birds on show, and won several prizes. The ladies of Umtali are to be congratulated on the very fine preserves, bottled fruits, and pickles which they can make. It is to be regretted that these are seldom seen at other times of the year than at shows, and have not yet found their way to the open market. A fine display of implements were shown on a plot some little way from the Drill Hall in which the produce was placed, an arrangement which strikes the visitor as leaving something to be desired in the arrangements of the ground. There was nothing noticeably new in this line, unless it was a very strong single horse cultivator which bore no name of maker on it. The exhibitors were Messrs. Meikle Bros. and the Salisbury branch of the Anglo-African Trading Association, both of whom deserve praise. The Companis de Mozambique showed particular interest in the show by an exhibition of a collection of minerals. Mr. A. Howat also had a fine exhibit in this section.

In conclusion, the impression taken away from Umtali after visiting the show was that the few farmers in that

part of the country, who do take the trouble to support the show, judging from the fruits of their labours, were progressive and quite up to date with those of any other district.

BULAWAYO SHOW.—This was the only complete show of the year, in that cattle were included as well as all the other customary sections, and was formally opened on the 11th June by His Honour the Acting Administrator.

The number of breeds of cattle, and the variety of crosses represented at the Bulawayo Show, indicates the readiness of farmers to experiment, and their anxiety to find an animal suited to their requirements. Laudible as such desires are, they do not tend to promote homogeneity of type or to facilitate further breeding on sound and reliable lines, but lead rather to the production ultimately of mongrel stock, a bovine hotch potch, without definite standard or pronounced utility for any particular purpose, be it meat, milk, or trek. The arrangements of the stalls was excellent, and the cattle could be well seen by visitors. Of the imported bulls, one Hereford belonging to Mr. Granger, and the two Shorthorns of Mr. E. A. Hull, deserve special mention. The larger of these two was awarded the championship, and all were in fine condition, and were good specimens of their types. A S.A. bred Friesland bull belonging to Mr. H. P. Fynn was much admired. Messrs. Beamish Bros. won the championship for the best S.A. bred bull with their Hereford. S.A. bred Herefords were much in evidence, while S.A. bred Shorthorns were also represented, and Messrs. Dechow and Tweedale took first prize with a fine beast.

For the championship for the best cow, Mr. Fleming's South Devon and Mr. Hull's Lincoln Red were close competitors, and the Lincoln Red won. Messrs. Curtis & Dennis took the premier prize for S.A. Friesland cows. Cross-bred cows were well represented. Friesland crosses were not on the show in the numbers that could be reasonably expected, considering the popularity of this breed. There were only two exhibits in S.A. Shorthorn heifers, the property of Mr. H. P. Fynn. In the Afri-cander class the bulls shown were well made specimens, Mr. H. P. Fynn and Col. Napier taking first places. The classes showing first results from Rhodesian crosses were interesting and full of promise, and formed one of the most instructive items of the whole show. A native cow

with two calves sired by shorthorn bulls belonging to Mr. Hull, and a native cow with 9 months old calf sired by a Hereford bull of Messrs. Beamish Bros. were both good exhibits, and took prizes deservedly. Mr. Gwynn's cross-bred Devon heifers, and Mr. A. E. Hill's cross-bred Friesland heifers are all worthy of mention. The Rhodesian breeders prize for cross-bred Friesland heifers went to Messrs. Fletcher and Espin. Among unclassified cattle, Messrs. Beamish Bros. were to the fore with a cross-bred Hereford bull, while two fine North Devon heifers were exhibited by Mr. Gwynn. Two spans of trek oxen, and some magnificent slaughter oxen were exhibited.

Generally, the cattle section was a success, and the great interest displayed by the visitors in the various breeds and their offsprings, was a good omen for the future of Matabeleland as a stock country.

The magnificent exhibition of produce of all sorts was very impressive. There was a fine display of tobacco, though not as large as it would have been had there been a more settled feeling among the growers as to markets. Turkish leaf was much in evidence. It is perhaps desirable to give more inducement to growers to exhibit commercial bales in place of encouraging the fancy methods of showing tobacco, which is no indication of the quality of the crop. Beginners in the industry might learn much from displays of bales done up in this way than from mere decoration displays. A good show of Rhodesian tobacco in every form of cigarettes, roll, cavendish, flake, plug and boer cut was shown by various manufacturers.

The maize exhibits were fairly numerous, and some good samples of Boone County, Hickory King and Yellow Mealies were shown. The cob exhibits were not up to the usual standard owing perhaps to the season. Heavy rainy seasons very often do not produce such good cobs as an average season. There were some very large cobs of Boone County shown, one cob counting over 1,300 grains. Bread mealies shown by the Empandeni Mission were much admired; these are, however, not a commercial variety owing to their light yield, and because as yet few people in Rhodesia have learnt the uses of mealies for human food, including bread and cakes. Wheat and oats shown were not very remarkable. Bean exhibits were numerous and of very good quality. These crops deserve more attention, beans being much in request for native

Views at the Bulawayo Show.



In the Implement Yard.



Photos by]

The Edmonds Tank erected by Messrs. Felgate & Co.

[J. S. Loosely.

Produce at the Bulawayo Show. The best assortment of Winter Foods for Cattle, exhibited by Messrs. Curtis & Dennis, Belle Vue.



C.—Collection Rhodesian Produce. 1st Prize.



D.—Assortment of Winter Food for Cattle, 1st Prize and Special.

rations on the mines, while export trade to the Southern Colonies might readily be established. Their value as a fertilising crop has also to be remembered.

Stock foods were well shown. Hay, forage, and roots were exhibited in great variety. Messrs. Curtis & Dennis deserve special mention for their stand of Rhodesian produce, in which many excellent forms of stock foods were seen, such as cowpea meal, corn and cob meal, sunflower meal and velvet bean meal, lucerne hay, millet hay, velvet bean hay, cowpea hay, veld hay, ensilage, and also some very well grown mangold wurzels, and green barley, chicory, and paspalum as green feeds. On the whole the produce exhibits showed very careful selection, and a great variety of what are at present minor crops, which may in the future be of great service to the farmer in providing a fertilising or catch crop.

In the implement section there was the usual display of up to date machinery of all the popular makes, a large number of exhibits of wind motors for pumping purposes, grinding meal, etc.

The Edmonds' Dipping Tank attracted much attention among stock owners, and is referred to elsewhere in this issue.

SALISBURY SHOW.—The Salisbury Show was opened by His Honour the Acting-Administrator on the 25th of June. In his opening speech, Mr. Newton regretted the absence of the cattle section, which had deprived the visitors of the opportunity of inspecting the fine lot of cattle they knew were in the country.

Sheep and goat exhibits were moderately good, there being a lack of competition and in number of exhibits. Mr. Morris's pen of cross-bred ewes, Rhodesian bred, deserve special mention.

The pigs were few, but had several good exhibits among them. The special cup in this section was secured by Messrs. MacLaurin Bros.

Tobacco was said to be inferior as compared with previous years. There were, however, some very nice looking samples on the tables. The B.S.A. Tobacco Plantation Co. merit special mention for their exhibit as growers and manufacturers, showing tobacco in infinite variety, from the leaf to the many grades of manufactured goods. There were also exhibits of pipe leaf, dark and light cigar fillers, and Turkish leaf. An interesting display of home

industries and works of utility and art, the performances of Rhodesian ladies, was exhibited under the auspices of the Loyal Women's Guild, and attracted much attention. It is hoped that such exhibits will become a permanent feature of our agricultural shows.

The exhibits of produce were numerous, and of the same good quality that had been characteristic at the Bulawayo and Umtali Shows. Mealies included Hickory King, Boone County, Horsetooth, Salisbury White, Golden Eagle and other Yellow Mealies. In the cob exhibits all these varieties also figured, and some very fine specimens were to be seen. Hickory King appears to be the favourite mealie for the light soils in the country, though Boone County has been grown on an increasing number of farms. Beans were shown in good quantity, also Buckwheat of excellent quality. Two exhibits of linseed grown by Messrs. Maclaurin Bros., and also one by Mr. C. F. Browning, were of fine quality. This most useful crop evidently grows well here, and it is probable that more will be grown next year, as it is only required to be known to be appreciated. Sunflower seed and monkey nuts were well shown. Potatoes were very good. A bag of "Up To Date," exhibited by Mr. Yeoman, merits a special mention. Amongst the varieties shown were Early Rose, Magnum Bonum, Flour Ball, British Queen, White Elephant, and Factors. There were good exhibits of all these, proving what the country can produce in this direction, for which such a ready market exists. When the number of farmers within easy reach of Salisbury is remembered, the display of outstanding merit was comparatively small. Many farmers would have exhibited, but lost interest, and did not show their produce as they could not exhibit their stock, and although this can be readily comprehended, it is none the less to be regretted.

Honey in the comb and in the bottle was exhibited with all kinds of bee appliances and bees by Mr. H. Brown and Mr. E. F. Sheppy.

The Methodist Episcopalian Mission from Mutambara again showed their native broom ware that had attracted much attention at the Umtali Show. Farm seeds were shown by Messrs. G. H. Williams & Co. and the Anglo-African Trading Co., and a striking display of garden plants were staged by Mr. F. Hubbard, of Ardbennie, at the entrance of the Produce Hall.

In the implement exhibits, which were very large, there was nothing new ; the implements were of the best makes, and thoroughly up to date. The section was visited by many farmers to discuss the relative merits of the rival makers with their respective supporters, always an instructive feature of an agricultural show. Forage of all kinds was good. Veld hay, cultivated grass hay, manna hay, oat hay were amongst the exhibits. The show was strong in the variety of produce, and in comparing the exhibits here with the collection made by the Department of the exhibits at Bulawayo and Umtali shows, the quality was maintained in each of these widely separated centres of Rhodesia, and it is difficult to say which was better than the other.

Poultry.

(Continued.)

By PHILIP N. HALL, Lenham Farm, Syringa.

First it is advisable to examine the outside of the specimen for wounds, bruises, skin diseases or broken limbs. The appearance of the comb, face and plumage should be noted. The mouth and throat must be examined, and any abnormal conditions, such as a purplish colour, growths of a cheesy nature or accumulations of saliva be observed. The fowl may then be laid on its back upon a table, its feet towards the operator, and the wings held down on either side, well spread away from the body. Pluck a few of the feathers from each side of the breast and abdomen, and while this is being done, note the appearance of the skin, or whether the fowl is thin or fat, or in an apparently healthy condition. If there is scarcely any flesh upon the keel bone, liver disease may be suspected, and the feathers being matted and dirty about the vent, often indicates enteritis or inflammation of the bowels, particularly if the excrement is of a white or yellowish green colour. Now make a cross cut in the skin of the abdomen immediately behind the breast bone, taking care not to touch the bowels. Run the scissors down

each side to the back, and then make a lateral cut through the ribs on both sides. The whole of the breast may then be lifted up and forced back towards the bird's head, exposing the gizzard, liver and heart. The remaining skin on the abdomen may be cut on either side and drawn away towards the stern, showing the entrails, and, if the bird is a female, the egg organs between them and the back. The liver may be examined first, as it will be the first organ to strike the eye. It should be firm, not unnaturally large, and of a healthy chocolate red colour. It should not be a yellow brown tint, nor should it show specks of any kind. If an incision is made through the thin diaphragmatic membrane between the liver and the walls of the chest, the lungs will be seen on either side at the back of the heart. These organs, if healthy, should be of a bright salmon pink colour, and a piece of one put in water should float. They are frequently affected by Tuberculosis, which shows itself in little yellowish growths or nodules, which also not infrequently spread and attack the heart. The latter organ should be of a deep red colour, and although it may have a marbling of fat round its base, this should not be excessive, and any specks of fat that may appear should not be mistaken for the tuberculosis nodules already mentioned. The heart should be evenly shaped and not distended with blood on the one side, and shrunken and empty on the other. If it is so, and it is known that the fowl dropped down dead suddenly, the cause of death may without hesitation be put down to syncope or heart failure. The throat, crop and gizzard may next be looked at, the "canal" being laid open right along for any obstruction that may have taken place, an accident that would be more likely to occur between the crop and the proventical than anywhere else. In the case of a hen, the cause of death may often be found in the egg organs. There may be some contents of a broken egg in the oviduct, or there may have been an escape of some of those contents into the abdominal cavity where acute inflammation would immediately be set up, peritonitis bringing about speedy death. The gizzard may be cut open and the contents examined. The intestines should be of a greyish white colour, and the kidneys, which are fixed to the spine, a reddish brown. If the symptoms before death are observed, it will seldom be necessary to go through all the various organs of the body in search

of the affected parts. For instance, a dejected look, a yellow hue of face and comb, variable appetite and loss of flesh will denote tuberculosis or some liver affection. Diarrhoea will usually indicate some intestinal irritation. An apoplectic seizure and delirium will point to an effusion of blood upon the brain, and, as already pointed out, a fainting fit, followed by death, directs one to look at the heart for confirmation.

I think that the foregoing information on the post-mortem examination of a fowl may be not only of use to the amateur, but may induce others who have never troubled to ascertain the cause of death among their birds to do so. There is little room for doubt that the wholesale deaths among many of the large flocks of farmyard fowls may be traced to the utter lack of attention even to the most elementary rules as applied to poultry rearing under all circumstances. The indiscriminate mating, usually resulting in a vast amount of inbreeding, is sure to result in weak constitutioned birds, with the inevitable result that any dormant disease in the parent stock will be reproduced in a greatly exaggerated form in the progeny, and the weak constitution will render them far more liable to become diseased through a variety of causes that would probably not affect well-bred birds. The running of mixed flocks of native fowls with well-bred stock is a mistake, and the farmer would find infinitely more satisfaction in keeping a smaller number of well-bred fowls, which, while costing no more for their keep, will supply the breakfast egg with far greater regularity.

The Treatment of Redwater.

By C. R. EDMONDS, G.V.S.

Referring to some notes of mine that were published in the Journal of April, 1909, as to treatment of these diseases, I think that in view of the havoc this disease has played in the past with susceptible cattle, and the probable introduction during the coming season of numbers of such cattle into Rhodesia, some results of the treatment by Methyl Arsenate of Soda that have been obtained in this district will be of interest. I only quote cases that have occurred in herds containing a fair number of animals, the odd beasts that have been treated I do not mention.

1st Lot.—Herd of 50 imported heifers, two dead before treatment was commenced, about 20 showed visible symptoms of the disease, 12 in a severe form discharging claret coloured urine. No further deaths occurred.

2nd Lot.—Herd of 58 imported heifers, six dead and several others sick, blood of which under microscopical examination revealed typical Redwater. After treatment was commenced, no further deaths occurred.

3rd Lot.—Herd of 39 imported heifers, two dead; treatment commenced Friday afternoon. Two more dead the following day. Every beast in the herd showed visible symptoms of the disease, but no further deaths occurred.

4th Lot.—Herd of 70 imported heifers. The owner, Mr. St. Chas. B. Gwynn, has kindly forwarded the temperature charts of all the heifers, which show in every case a distinct febrile reaction, in some cases as high as 108° F.

The following extracts are taken from Mr. Gwynn's report:—

“By means of this treatment I have not lost one of the 70 odd I got up from the Colony this season from Gall-sickness or Redwater. I except of course Nos. 1 and 4. No. 1 had been in Bulawayo some time, and was practically dead on arrival, and so weak that I did not give her the arsenite. No. 4 ran away at the beginning of her treatment, and was found and brought home on a sledge to die.

“Doses of Methyl Arsenate: Under 15 months gave 3 daily doses of 1-10th oz. Over 20 months I gave one drachm daily. There was much loss of condition and

a quicker recovery in cases from 23 months onward, by giving a full drachm a day, each drachm divided into three parts and given in the early morning, at midday and sundown. There were no symptoms observed in these cases of arsenic poisoning, nor were the kidneys noticeably affected.

"As soon as cattle were seen lying apart and seeming distressed, they were caught and the temperature taken, examined for ticks, and if a number of the small ticks in the second stage of moult were found on the thighs or escutcheon, a full dose of Glauber salts was given, and Methyl Arsenate the following three days. When the fever had run its course, a tonic was given with their food twice a day (valuable animals got it three times a day). Barring the three heifers not treated, Nos. 47, 48, and 49, there was little loss of condition. It is an iron tonic, and not out of the ordinary, but as it seems to aid the convalescence greatly, I give it below.

"Reduced iron, 2 oz.; powdered gentian, 4 oz.; powdered vomied, 2 oz.; powdered rhubarb, 2 oz.; potass nitrate, 6 oz. Thoroughly mixed and given in heaped tablespoon doses two or three times a day in food (crushed mealies or bran) a little sprinkled on food for a day or two, until they acquire a taste for it.

"You will probably have your own iron tonic. During the course of the fever, 2 oz. of Glauber salts was given every morning.

"The disease, as shown in above cases is, I think, the mild autumn type of the fever, what we call acclimatising, and I think a fair percentage would recover. I want to try it on cattle of the same age in January, February and March, when ticks are most virulent. Di Methyl Arsenate is, I believe, a cure, provided the animal is helped with a nutritious laxative diet and assisted through the convalescence. A good iron tonic is required to build up the blood once the fever abates, and should contain a mild liver and kidney stimulant."

Termites.

An interesting and instructive article appears in the "Agricultural Journal of British East Africa" for January, 1909, on the "White Ant," by Mr. T. J. Anderson (Entomologist).

We learn that a queen ant or Termite lays from 20,000 to 80,000 eggs per day. Such community of termites consists of (1) soldiers; (2) workers; (3) winged males and females. The third kind stay in the nest only for a brief space. They then fly a short time, settle on the ground, and cast their wings. Pairing takes place, and each pair are capable of forming a new colony. Considering the enormous numbers which swarm from mounds to holes in the ground, only a very small proportion can ever live to accomplish this.

The treatment recommended in destroying mounds is sulphur and arsenic fumigation with a machine called the "Universal Ant Exterminator," and by the description given of this machine, it appears to be a practical and well planned weapon of destruction. They cost £4, and are obtainable in Pretoria.

In erecting wattle and daub huts, on farm buildings, it is recommended to treat the mud used with a weak solution of copper sulphate, to keep the ants out of the building. Croton oil is also recommended for this purpose.

Agricultural Reports.

MARCH, APRIL, AND MAY, 1909

MATABELELAND.—Cattle Removal Regulations have been strictly enforced by the Native Commissioners of the various districts. Natives are reported as becoming more eager to register their brands, and quite a number are now doing so, though most still prefer the old custom of ear-marking.

Very satisfactory reports in respect of the harvest have been received. In Belingwe a fair average crop of grain is assured, and in the Bubi district they are excellent, heavier than for many years past. Gwanda also reports good crops. Inyquti and Kafir corn are extremely good at Insiza, but mealies are a comparative failure. There is an appreciable increase in the crops of monkey nuts and beans. Baboons continue to be troublesome to agriculture in the Matopos; they are said to be so numerous and destructive to crops as to make some parts untenable. Another pest which is reported to be fairly universal is the small bird. They are giving great trouble to the native people in the Mzingwani district—the kraals are deserted all day, the inhabitants being in the fields keeping the birds off the small grains. This “bird pest” will become more apparent when more small grains are grown by Europeans, and eventually systematic poisoning will have to be resorted to.

Three natives in the Selukwe district have stated their intention of purchasing ploughs for the next rainy season; the crops in this district are good.

The local labour supply in Matabeleland has shown signs of distinct improvement. Till lately there existed a shortage in several districts, but latterly, for other than mining purposes, the supply has been equal to the demand.

As winter approaches, scab amongst native sheep and goats has begun to manifest itself in several districts, and flocks of native stock are being affected. Preventative measures are being undertaken by dipping, and the scab regulations are being applied in a tentative manner in the Mzingwani area.

In Belingwe district, near Sizuku's Kraal, twelve swarms of young locusts have been destroyed by the police. Native crops are favourably reported on in all parts of the district, but mealies and European crops are disappointing.

Native stock in the Matobo district is flourishing. All stock is said to be doing well, except that there is considerable mortality among European bred calves from liver trouble.

May: Steps for the preservation of pasture by burning fire-guards have been undertaken in some districts.

MASHONALAND.—In general the mealie crops, rapoko, and white millet are far above the average, and everywhere natives are expected to have grain for their own requirements, and in some instances large quantities to dispose of. In Mtoko, however, crops suffered from lack of late rains, and are not so good as anticipated. Crops are expected to be very good in Victoria, with the exception of mealies, which will be a light yield owing to having been stunted by the drought experienced in this district in December. Native ground nuts and beans are plentiful. In the sandy districts there are heavy yields of ground nuts, sweet potatoes, etc. Rice has been grown to a greater extent this year than has been the case for three or four years.

Mealies are being cultivated to a larger extent than hitherto by the natives round Inyanga, where the presence of traders has affected the growing of crops in this district. Many grow beans, peas, mealies, etc., for the purpose of selling.

“Munga” is said to have failed in the Chiduku Reserve, perhaps through too early planting. Fair returns from the mealie crops in the high veld have been received. Native crops in the Sabi Valley and the warmer parts of S. Melssetter are good. Native cattle are in good health and fat.

Hartley has been much handicapped by the appearance of the “Tsetse-fly,” and stock farmers have been much disconcerted here, and Marandellas is still under surveillance. Imported stock has suffered through red-water and acclimatisation ills, but other cattle are doing extremely well. Several cattle owners round Enkeldoorn are getting up Hereford bulls, but round Salisbury the Friesland breed is the present favourite.

Three rhinoceros were reported as doing considerable damage to the native crops in North Mazoe, one of which was shot by the Acting Native Commissioner.

Epitome of Cattle Inspectors' Returns.

APRIL, 1909.

SALISBURY (MARONDELLA).

African Coast Fever.—The mortality to the end of the month was 88. The source of infection has not been traced. The only infected areas in the whole territory are those in the Umtali district; no susceptible cattle have been on these for some months now, and the whole is well guarded. The possibility of a beast contracting the disease on any of these areas, getting through the police cordon and Springvale Farm—which is at least 85 miles from the nearest point of the infected veld—without discovery, is remote, and if any such thing did occur, other outbreaks would have occurred in the district, and in the intervening district of Makoni. The history of the cattle on Springvale, and the movements of cattle to and from it afford no clue as to the source of infection.

MEASURES TAKEN FOR THE PREVENTION OF THE SPREAD OF THE DISEASE.

All movements were stopped in Marondella and parts of the adjoining district, and all cattle which had left Marondella district after the 1st March were placed in quarantine, but happily none of these manifested signs of the disease. A Government Veterinary Surgeon was placed in charge of the Springvale cattle, and police patrols were despatched in every direction to ensure that no cattle were being moved, and to enquire from farmers and others as to any cases of sickness. A cordon of European and Native police has been placed around the infected area. All cattle on the adjoining farms were kept under constant observation.

Information was received that cattle were sick on the farm Lillyfontein, on the border of the Charter district. A force of B.S.A. Police and R.N. Police was at once despatched there. A Government veterinary surgeon has been in constant attendance, but so far nothing has been discovered except Trypanosomiasis.

On the farm "Gatzi," about four miles from Springvale, suspicious cases occurred amongst a small lot of Friesland heifers imported some months ago from the Cape Colony.

On the farm Highlands, Mr. Stirling, G.V.S., found two calves on the 22nd April with high temperatures. Owing to the proximity of the disease at Springvale, this was regarded with suspicion, and a temperature camp was at once started; within ten days 28 animals—mostly calves—showed high temperatures, and were removed from the main herd. On the fourth day at mid-day all showed normal temperatures except two. Only one death has occurred, and the cause was attributed to valvular heart disease. At two other temperature camps a similar course of fever has been observed in calves; so far microscopical examination of blood smears has failed to demonstrate *piroplasma parva*. I am of opinion that these reactions are either Redwater, or the disease caused by *Piroplasma mutans*. I may remark here that ticks have been more prevalent in this district during the past season than for many years past.

BULAWAYO.

African Coast Fever.—Test cattle were placed in the old infected enclosure, and up to the end of the month no sickness was reported.

Scab.—One consignment of imported sheep arrived infected.

Glanders.—The following animals were tested upon entry:—Horses, 45; mules, 176; donkeys, 150. One mule reacted and was destroyed.

UMTALI.

African Coast Fever.—Some cattle running on Plot No. 5, Inbeza Valley, were very close to the old infected area, and the owner was given facilities to remove the stock, provided they were kept under veterinary supervision in a properly fenced enclosure. Temperature taking was carried out daily, and in eight days high temperatures were revealed. The owner, upon this, voluntarily agreed to slaughter off the animals. Four separate examinations of blood taken from the febrile cases were made, but it was only on the last and fourth examination that definite results were obtained, and the *Piroplasma parva* detected in small numbers.

Biliary Fever.—One mare recovered.

Horse Sickness.—One inoculated mule died.

Scab.—One outbreak on the Commonage.

VICTORIA.

Rabies.—This disease appeared amongst some of the coach mules on the Victoria-Selukwe road.

Horse Sickness.—One horse and a mule died.

GWANDA.

Scab.—One outbreak.

OTHER DISTRICTS.

No disease reported.

MAY AND JUNE, 1909.

SALISBURY.

Scab.—One outbreak of scab on Commonage.

MARONDELLA.

African Coast Fever.—Springvale: Total number of deaths to end of June, 134.

Rusawi Outspan: A fresh outbreak occurred amongst Mr. Finch's cattle running on Rusawi Outspan, about three miles from Marondella Station. One beast died, and the remainder were removed to clean veld. Several animals showing high temperatures were returned to the homestead at various dates, but so far no other case of Coast Fever has occurred. One ox was destroyed as suspicious, but no trace of Coast Fever lesions could be found on post-mortem, and microscopic examination of blood smears proved negative. Six animals died from other causes, chiefly arsenical poisoning, the result of spraying.

MARONDELLA STATION.

Two animals died at the Native Commissioner's Camp and two at No. 1 Temperature Camp amongst Messrs. Day & Bradshaw's cattle removed from Marondella Station.

GATZI AND HIGHLANDS.

It has been definitely ascertained that African Coast Fever does not exist on either of these farms, and that the temperature reactions were due to Redwater.

LILLIEFONTEIN.

No trace of Coast Fever infection was discovered on this or any of the adjoining farms, and all the European and Native Police posts except one were withdrawn.

Three animals died from Trypanosomiasis, identified by Dr. Theiler as Tryp. Dimorphon. The infection was contracted in the Hartley district, and also according to the owner's statement in a fly belt near the junction of the Sabi and Macheke Rivers. No cases have occurred in any of the farm stock.

BULAWAYO.

African Coast Fever.—One of the test cattle placed on the Msingwani infected area on 12th April showed a rise of temperature on 1st May, and died subsequently from Coast Fever. The remainder of the cattle were removed to another part of the enclosure, and are still healthy. The area on which this animal contracted the disease is the camp on which all the sick cattle were concentrated on removal from the temperature camp during 1907, and the last death occurred about the middle of January, 1908.

Glanders.—The following animals were tested upon arrival for Glanders. One animal re-acting was destroyed. May: Horses, 275; mules, 410; donkeys, 504. Total, 1,189. June, Horses, 171; mules, 115; donkeys, 35. Total, 321.

UMTALI.

African Coast Fever.—Nothing to report.

Horse Sickness.—Ten horses and four inoculated mules died.

MELSETTER.

Scab.—Two outbreaks occurred.

ALL OTHER DISTRICTS.

No contagious disease.

J. M. SINCLAIR,

Chief Veterinary Surgeon.

Weather Bureau.

MAY.—Temperatures recorded at various stations in Southern Rhodesia during May were generally about the average for this month. Towards the latter part of the month the nights were very cold, and frost was general in the lower lying parts of the country. The rainfall recorded shows a fall above the average for the month in Mashonaland. At Mount Darwin nearly two inches is recorded, which is a record for that station in this month since its establishment in September, 1901. In the seven years this station has recorded nothing higher than 0'26 in 1905.

In Matabeleland the rainfall recorded is about the average for the month.

JUNE.—Temperature records have only reached us in a small number at time of writing; these indicate very cold nights, and rather more nights on which frost occurred than usual. The month was a windy one, the prevailing winds as usual being South-East.

Very little rain is recorded, the weather being generally over all the country the usual bright and cold healthy weather expected during June.

(Signed) C. E. F. ALLEN,

Officer in Charge, Weather Bureau.

TEMPERATURES RECORDED IN MAY.

Station.	Mean Temp.	Maximum.	Minimum
Umtali	55.9	77.9	33.0
Gwelo	59.0	74.0	44.0
Hope Fountain	59.6	72.1	47.1
Melsetter	—	73.8	—
Belingwe (27 days)	—	75.8	46.2
Gwanda	61.9	76.9	46.8
Rhodes Matopos Park ..	59.5	73.1	45.8
Karyangew, Sebungwe ..	68.2	77.7	58.6
Salisbury	60.3	73.6	47.0
Victoria	60.6	75.8	45.4
Inyanga	55.5	67.8	43.2
Empandeni	65.5	76.9	44.1

RECORDS RECEIVED OF RAINFALL AT STATIONS IN SOUTHERN
RHODESIA DURING MAY AND JUNE.

District.	May.	June.
<i>Mashonaland.</i>	Inches.	Inches.
Charter .. .. .	.19	.10
Chilimanzi	Nil	*
Chishawasha .. .. .	.30	*
Driefontein .. .. .	.56	Nil
Enkeldoorn .. .. .	.22	*
Gatooma .. .. .	.46	Nil
Gutu .. .. .	.10	*
Inyanga .. .. .	.74	*
Macheke	Nil	Nil
Makoni .. .. .	.50	Nil
South Mazoe .. .. .	.13	Nil
Melsetter .. .. .	.45	*
Mount Darwin	1.90	.01
Marandellas, Progress Farm .. .. .	.45	*
Salisbury .. .. .	.03	.04
Sinoia .. .. .	.04	Nil
Sipolilos .. .. .	.54	Nil
Umtali .. .. .	.53	.27
Umtali, Honde Heights	1.17	.78
Umtali, Utopia .. .. .	.13	.58
Victoria .. .. .	.12	*
York Farm, Inyanga .. .. .	.65	.64
<i>Matabeleland.</i>		
Bulawayo		
Belingwe	Nil	.12
Essexvale .. .. .	.02	*
Empandeni	Nil	Nil
Fort Rixon .. .. .	.15	*
Gwanda .. .. .	.23	*
Gwelo .. .. .	.19	.02
Hope Fountain .. .. .	.18	.01
Inyati	Nil	*
Matopo Mission .. .. .	.06	Nil
Rhodes Matopo Park .. .. .	.04	*
Sebungwe	Nil	*
Tuli	Nil	Nil
Victoria Falls	Nil	Nil

* denotes no record received at date of compilation.

Correspondence.

BREAD MAKING.

By S. T. JORDAN, Rose Farm, Gwelo.

Bread wanted in a hurry.—Have first of all your oven ready for baking, or if a bake pot is used, plenty of hot coals ready. To every quart of flour take two full teaspoons of baking powder, add salt to taste, and mix all well together in a dry state, then take water or milk sufficient to make the flour up into a fairly stiff dough; make the bread as quickly as you can, dust your pot or pan with flour or slightly grease with fat to prevent the loaf from sticking to the sides, put the dough in the pot and bake at once. To test if baked sufficient, take a clean knife and plunge into the loaf for a second: if it comes out clean the bread is baked enough.

Bread made with patent yeast cakes, obtainable at stores at 9d. per tin.—Take one cake and dissolve in lukewarm water, say a small cup full, take four cups of lukewarm water, and put in a dish, add flour to make a fairly thick sponge, then add the above dissolved cake, and mix well, cover, and set over-night in a warm place to rise. In the morning add flour and make dough, working it well together till the dough comes clean away from the sides of the pan, shape into loaves, and put into greased pans or bake pots, filling them a little more than half full, set to raise, and then bake. One cake is sufficient to make 12 lbs. of bread.

To $3\frac{1}{2}$ lbs. of flour add a dessert spoonful of salt and mix well. Mix two tablespoonfuls of fresh yeast with half a pint of warm water, make a hole in the middle of the flour, pour the yeast into this hole, and stir with a spoon until you have made a thin batter, sprinkle this over with flour and cover the pan with a cloth, and let it stand in a warm place for one hour, then add a pint of warm water and knead the whole well together, make it into loaves, and then let it stand to rise, and then bake.

Another way to make bread is to take Kafir beer instead of water to mix the flour with, set in the sun to rise, and then bake. With fresh beer, bread will rise in half an hour.

Sour dough bread.—Take dough from mixing a lump about the size of your fist (clenched), put it into a 1 lb. oblong tea-tin, and keep the lid closed until wanted. To use, add warm water to the dough in tin, and stir till a thin batter is made, and the tin is about two-thirds full, set the tin near the fire (not too close) or in the hot sun till the batter works and fills the tin to the brim, put the flour in a pan, and add the batter and mix well to a stiff dough. Take dough for next baking as above, and put in a tin, put in tins or bake pots, then place it in the hot sun; it should rise in half an hour, then bake.

Bread sounds hollow when properly baked.

Cheap and nutritious bread.—Take from a $\frac{1}{4}$ to $\frac{1}{2}$ a lb. of mealie meal to 1 lb. flour. To make, take boiling water, and pour over the mealie meal, and mix till a thick porridge is made, let it cool down and add to flour, mixing well, add yeast and proceed as above.

To make yeast.—Boil, say on Monday morning, two ounces of best hops in four quarts of water for half an hour, strain and let it cool to luke warm, take a small handful of salt, and mix also $\frac{1}{2}$ lb. of sugar, take 1 lb. of flour, and mix all well together in a bowl. On Wednesday add 3 lbs. of potatoes, boiled and then mashed, let stand until Thursday, then strain and put into bottles, and it is ready for use. It must be stirred frequently when making and kept near the fire. Before using, shake the bottle well. This will keep for two months if kept in a cool place.

[This correspondence may now cease, and the correspondents are thanked for their kind contributions.—EDITOR.]

AGRICULTURAL EDUCATION.

TO THE EDITOR, "AGRICULTURAL JOURNAL."

Sir,—I notice that at the recent meeting of the Agricultural Union, much time was devoted to an interesting discussion on the need of greater facilities for general education for farmers' children. While in no way desiring to discourage such a laudable object, may I, through

the Journal, call the attention to the need also for education of those who have left school, young men and girls, and for the matter of that old farmers too in matters appertaining to agriculture. Nothing strikes me more than to observe how little our farmers know either of the practice or the science of their calling. We must sadly admit that we are for the most part very amateurish and very ignorant of many things which might materially assist us in our endeavours to make a living on the land.

What we need is instruction on such matters as the care of livestock, well or ill, dairying, the cultivation of crops, and some idea of the right soil for each, its uses, seasons, and value when sold, the pests of crops and fruit trees, pruning, grafting, measuring up land; these and much else of the same sort. Odd lectures and the Journal no doubt do good, but the time is approaching when more systematic courses of instruction are wanted, open both to our own rising generation and youths from overseas. Hoping this matter may be ventilated in your pages,—I am, etc.,

AGRICOLA.

[Correspondence on this highly important topic is cordially invited.—EDITOR, *R.A.J.*]

Garden Calendar.

THE FLOWER GARDEN.

By N. L. KAYE-EDDIE.

September.—Although our spring advances with this month, rains are very uncertain and sometimes scarce, but in spite of circumstances plants now grow with very little encouragement. Perennials and shrubs should be well attended to, especially those which flower early, the soil should be kept well stirred around the stems, and they should be watered if necessary.

Practically all flower seeds may now be sown in boxes, nursery beds, or in the open ground where they are to be

grown. Nursery beds are perhaps preferable, as a great deal of watering may have to be resorted to on account of late rains. All annuals sown in July should now be ready for transplanting; should these be few, and a larger show of flowers desired, the heads may be pinched out after planting, which makes the plant spread out more and become bushy. Shrub and ornamental tree seeds should be sown now if desired for planting out during the rainy season, and may be sown in the open; if it is desired to hasten them they should be planted in boxes and covered with glass and placed in a sunny position sheltered from the winds. If summer bulbs have not already been replanted, this should be done at once; they sprout as the weather becomes warmer, and, if allowed to do this before planting, the bulb loses much of its vigour. It must be borne in mind that all bulbs that cluster, if divided, produce better blooms, and the plants have a better appearance than the old cluster, which has a lot of decayed matter and generally a ragged appearance; this also applies to those perennials which may be increased by division of roots.

October.—All flower seeds, annual and perennial, may be sown as in September; a word or two on open seed beds may not be out of place here. These beds should be prepared in a sheltered position, the soil should be well and deeply dug,—this is more essential than at first thought, as in this state the soil when once watered is more easily kept moist, and is not so liable to cake; the top dressing should be free from all undecayed vegetable matter and, when sown, the seeds should be covered with a thin dressing of fine light soil, over which a thin covering of grass may be placed to keep off evaporation.

Transplanting from boxes or beds should be done on a dull day or towards evening; the plants should be well watered before being removed, and the roots disturbed as little as possible, care being taken that the latter have their full depth and spread when planting.

KITCHEN GARDEN.

September.—Most seeds may now be sown, though there is risk of losses from want of rain. Watering of course can be resorted to. Marrows, pumpkin, melon,

cucumber, and peas may be planted in the field after the first rains. Tomatoes that have been sown earlier should be planted out, and these as they come on should be staked.

October.—As in September, nearly all vegetable seeds may be sown. Early potatoes should be earthed up when reaching the height of about eight inches. In planting a small amount of marrow, melon, cucumber, and pumpkin the writer has found it economical to sow the seed one in a tin and transplant when about four inches high in hills. A few cucumbers planted in this manner yielded nearly 400 a week for about two months. Sweet corn and mealies may also be sown this month.

Market Reports.

London market reports show that large shipments of maize continue to be received from the Plate River, America, and prices have undergone very little change.

South African maize has been sold in small quantities, principally for the Continent, at prices from 26s. 9d. to 28s. 1d. per 480 lbs., C.I.F.

Owing to the small shipments, oats have been in good demand, and the prices become firmer. South African oats have been sold at 18s. 6d. per 304 lbs., C.I.F.

Market quotations supplied by:—

1. Messrs. Jas. Lawrence & Co., Ltd., Johannesburg.
2. Messrs. Jas. Lawrence & Co., Ltd., Kimberley.
3. Messrs. Wightman & Co., Ltd., Salisbury.
4. Messrs. Whitfield & Co., Salisbury.
5. Messrs. Hubert Morisse & Co., Johannesburg.
6. Johannesburg Produce Commission Agency.

(1) Jas. Lawrence & Co. (Transvaal), Ltd., Johannesburg:—

Barley, per 150 lbs. . .	11/6 to 13/6	Mealies (S.A.), White, per 200 lbs. . .	9/- to 9/6
Boer Meal (unsifted), per 200 lbs. . .	23/6 „ 26/-	Mealies (S.A.), Yellow, per 200 lbs. . .	9/6 „ 10/-
Boer Meal (sifted), per 200 lbs. . .	27/6 „ 30/6	Oats, Inferior, per 150 lbs. . .	7/- „ 7/9
Bran, per 100 lbs. . .	8/- „ 8/3	Oats, Good, per 150 lbs. . .	8/6 „ 10/6
Beans, per 200 lbs. . .	13/6 „ 45/-	Potatoes, per 150 lbs. . .	14/- „ 21/6
Chaff, per 100 lbs. . .	3/- „ 4/6	Onions, per 120 lbs. . .	8/- „ 9/6
Eggs, per dozen . .	1/2 „ 1/4½	Lucerne, per 100 lbs. . .	5/- „ 6/6
Salt, per 200 lbs. . .	5/- „ 5/6	Slaughter Oxen, dressed, prime, per 100 lbs. . .	25/- „ 31/6
Forage, per 100 lbs. . .	3/3 „ 7/-	Sheep, per lb. dressed weight . . .	4d. „ 4½d.
Wheat, good, per 200 lbs. . .	19/6 „ 22/6	Pigs (live weight), per lb. . .	2½d. „ 3½d.
Rye, per 200 lbs. . .	14/6 „ 16/6	Turkeys, each . . .	3/6 „ 13/-
Manna Hay . . .	3/- „ 4/6	Fowls, each . . .	1/6 „ 3/6
Kaffir Corn, White, per 200 lbs. . .	7/9 „ 8/6	Ducks, each . . .	2/2 „ 3/3
Kaffir Corn, Red, per 200 lbs. . .	8/6 „ 9/3	Geese, each . . .	4/- „ 5/-
Butter, per lb. . .	10d. „ 1/4	Pigeons, each . . .	1/- „ 1/3
Hay, per bale . . .	5d. „ 1/1		

(2) James Lawrence & Co., Ltd., Kimberley:—

Bran, per bag 100 lbs. . .	7/- to 8/-	Onions, per bag 120 lbs. . .	7/- to 10/-
Barley, per bag 163 lbs. . .	10/- „ 15/-	Potatoes, per bag 163 lbs. . .	12/- „ 17/6
Beans, Sugar, bag 203 lbs. . .	32/6 „ 37/6	Potatoes (local) . . .	14/- „ 21/-
Beans, Kafir, 203 lbs. . .	9/6 „ 10/6	Tobacco, per lb. (good) . .	4d. „ 7d.
Chaff (Colonial), bale . .	4/6 „ 9/6	Tobacco, per lb. (inferior) . .	1d.
Chaff „ pressed, 100 lbs. . .	3/- „ 4/-	Wheat, per bag 203 lbs. . .	23/- to 26/-
Forage, per 100 lbs. (good) . . .	5/6 „ 5/9	Butter, per lb. (fresh) . .	11d. „ 1/2
Forage, per 100 lbs. (inferior) . . .	4/9 „ 5/-	Butter (second quality) . .	9d. „ 10d.
Kafir Corn, S.A. mixed . .	8/- „ 9/6	Eggs, per dozen . . .	1/1 „ 1/4
Kafir Corn, White . . .	8/6 „ 9/6	Ducks, each . . .	2/- „ 2/9
Boer Meal (Colonial), unsifted mixed . . .	28/- „ 28/6	Fowls, each . . .	1/6 „ 2/3
Boer Meal (Colonial), sifted mixed . . .	30/6 „ 32/6	Turkeys, each . . .	3/6 „ 7/6
Flour (Colonial), per bag 100 lbs. . .	16/6 „ 17/6	Hams & Bacon, per lb. . .	2/9 „ 3/6
Yellow Mealies, Colonial, 203 lbs. . .	9/6 „ 10/6	Salt, per bag . . .	2/9 „ 3/6
White Mealies, Colonial (hard) 203 lbs. . .	9/6 „ 10/6	Walnuts, per lb. . .	2d. „ 4d.
White Mealie Meal, 183 lbs. . .	10/6 „ 11/6	Dried Peaches, per lb. . .	2d. „ 4d.
Oats, per bag 150 lbs. . .	9/6 „ 10/6	Dried Apricots, per lb. . .	2/6 „ 3/-
Lucerne Hay, per 100 lbs. . .	4/6 „ 5/3	Lime, per bag . . .	2/- „ 6/6
		Apples, per 100 . . .	3/- „ 10/-
		Apples, per box . . .	1/- „ 4/6
		Guavas, per box . . .	2/- „ 4/6
		Oranges, per 100 . . .	1/- „ 3/6
		Naartjes, per 100 . . .	1/- „ 1/6
		Pine Apples, per dozen . .	6d. „ 9d.
		Beans, Green, per lot . .	1/6 „ 5/-
		Cabbages, per dozen . .	2/- „ 7/-
		Pumpkins, per dozen . .	2/- „ 6/-
		Cauliflowers, per dozen . .	

(3) Wightman & Co., Ltd., Salisbury:—

Mealies . . .	10/- to 10/6	Monkey Nuts, 83 lbs. unshelled . . .	8/6 to 10/-
Rapoko . . .	9/- „ 10/-	Monkey Nuts, per lb. unshelled . . .	1¾d. „ 2d.
Potatoes, per bag 150 lbs. . .	18/6 „ 20/-	Pumpkins, per ton . . .	40/- „ 60/-
Forage . . .	10/- „ 11/-	Sweet Potatoes, per bag 150 lbs. . .	17/- „ 18/-
Manna Forage . . .	6/- „ 7/6	Kafir Corn . . .	9/- „ 10/-
Onions, per lb. . .	2¾d. „ 3d.	Wheat . . .	30/- „ 35/-
Munga . . .	10/- „ 11/6		
Beans . . .	16/- „ 20/-		

(4) Messrs. Whitfield & Co., Salisbury:—

Cows, Good Milkers ..	£20 to £25	Mules, not Inoculated ..	£20 to £25
Native Cows ..	.. £8 0	Horses, Imported ..	£25 to £30
Heifers, Colonial ..	.. £7 10	Donkeys, Colonial ..	.. £7 0
Heifers, Native ..	.. £5 0	Donkeys, German East ..	.. £6 10
Trained Oxen, Large ..	.. £12 10	Africa ..	£6 to £7
Trained Oxen, Ordinary ..	.. £10 0	Sheep, Colonial ..	.. £1 4
Mules, Inoculated ..	.. £30 0		

(5) Hubert Morisse & Co.:—

Barley, per 163 lbs. ..	11/6 to 14/6	Lucerne, per 100 lbs. ..	4/9 to 6/6
Bran, per 100 lbs. (Col.) ..	8/- ,, 8/3	Manna ..	.. 3/3 ,, 4/9
Chaff, best, 100 lbs. ..	2/9 ,, 4/6	Transvaal Hay ..	6d. ,, 10d.
Eggs, per doz. (Colonial) ..	1/3 ,, 1/5	Oats, per 153 lbs. ..	7/9 ,, 12/10
Salt, per bag ..	5/4 ,, 5/6	Potatoes, best, per 153 lbs. ..	17/4 ,, 20/-
Forage (Transvaal) ..	6/3 ,, 6/9	Potatoes, medium and inferior ..	15/- ,, 17/3
Forage (Colonial), best, per 100 lbs. ..	6/6 ,, 7/-	Onions (Cape), 120 lbs. ..	8/- ,, 9/-
Forage, med. and inferior, per 100 lbs. ..	3/9 ,, 5/9	Turkeys (Cocks) ..	5/- ,, 11/6
S. Meal, best fine ..	29/- ,, 31/-	Turkeys (Hens) ..	4/- ,, 5/-
Rye ..	15/6 ,, 17/-	Fowls ..	1/6 ,, 3/6
Wheat ..	19/6 ,, 23/6	Ducks ..	2/6 ,, 3/-
Mealies (Hickory King Whites) ..	9/0 ,, 9/6	Geese ..	4/6 ,, 5/-
Mealies (O.R.C. Whites) ..	9/- ,, 9/6	Pigeons ..	1/- ,, 1/3
Mealies (Yellow) ..	9/- ,, 9/8	Butter (O.R.C.) ..	11d. ,, 1/3
Kafir Corn, per 203 lbs. ..	8/3 ,, 9/3	Pumpkins, each ..	2d. ,, 4d.
Hay, Sweet (Transvaal) ..	6d. ,, 1/1	Beans, per 200 lbs. (Sound) ..	13/6 ,, 46/-

(6) Johannesburg Produce Commission Agency:—

Bran, per 100 lbs. ..	8/- to 8/3	Oats, Seed (Clean), per 153 lbs. ..	10/- to 11/-
Barley, per 150 lbs. ..	11/- ,, 13/6	Oats, Feeding ..	7/6 ,, 9/-
Beans, per bag 203 lbs. ..	12/6 ,, 25/-	Onions, Yellow (Col.) ..	9/0 ,, 10/-
Beans (Sugar), per 203 lbs. ..	30/- ,, 42/6	Onions, Local ..	6/- ,, 8/-
Chaff, per 100 lbs. ..	3/3 ,, 4/-	Potatoes, best Transvaal ..	18/- ,, 20/-
Forage (Oathay), Best ..	6/9 ,, 7/3	Potatoes, best Natal, Cape and O.R.C. ..	16/- ,, 17/-
Forage (Oathay), Med. ..	5/0 ,, 6/0	Potatoes, best Medium ..	14/- ,, 15/6
Forage (Oathay), Infer. ..	4/- ,, 4/9	Potatoes, best Inferior and Small ..	13/- ,, 14/-
Kafir Corn, Red ..	9/- ,, 9/6	Potatoes, Sweet ..	4/- ,, 6/6
Kafir Corn, White ..	8/- ,, 8/3	Peas (Dry), per 203 lbs. ..	11/3 ,, 11/9
Kafir Corn, Mixed ..	8/3 ,, 8/6	Tobacco, Transvaal Leaf, per lb. ..	2½d. ,, 5½d.
Lucerne, per 100 lbs. Dry ..	5/6 ,, 6/6	Wheat, Transvaal ..	22/6 ,, 23/6
Mealies, White ..	9/2 ,, 9/6	Wheat, Basutoland ..	20/- ,, 21/-
Mealies, Yellow ..	9/3 ,, 9/6	Sifted Boer Meal, per 200 lbs. ..	28/6 ,, 30/-
Monkey Nuts, per 100 lbs. ..	9/- ,, 9/3	Unsifted Boer Meal ..	22/6 ,, 27/6
Rye ..	15/6 ,, 16/6		
Manna, per 100 lbs. ..	3/6 ,, 4/3		

SOUTH AFRICAN STUD BOOK.

A RECORD of all classes of Stock, the object being to encourage the breeding of Thoroughbred Stock and to maintain the purity of breeds, thus enhancing their value to the individual owner and to the country generally.

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For Orange River Colony—

E. J. MACMILLAN, GOVERNMENT BUILDINGS,
BLOEMFONTEIN.

A. A. PERSSE,

Secretary South African

Stud Book Association.

Government Notices.

No. 217 of 1907.

Department of Agriculture,

Administrator's Office,

Salisbury, 10th October, 1907.

AFRICAN COAST FEVER.

UNDER and by virtue of the powers vested in me by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel and withdraw as from the 1st October, 1907, the regulations promulgated by Government Notices No. 189 of 1906 and No. 185 of 1907, and declare that the following shall be of full force and effect in lieu thereof from that date within the province of Mashonaland and the fiscal division of Gwelo, as defined by the "Southern Rhodesia Boundary Regulations Amendment Regulations, 1898," which areas are hereby declared to be areas infected with a destructive disease :—

1. The movement of all cattle within the said area is prohibited save and except :—

- (a) On permission granted by an officer specially authorised thereto by the Administrator.
- (b) Within the boundaries of any single farm where such cattle are depastured.
- (c) Within any area of land enclosed by a substantial fence.
- (d) Within the boundaries of the various commonages, town lands, or grazing ground common to any mining camp.
- (e) Within a radius of four miles of any native kraal situate within the boundaries of any native location or reserve, the site of such kraal shall be deemed to be the place where it is situated at the date of publication hereof, and as is further provided.

2. The movement of cattle for slaughter purposes shall be permitted under the written authority of an officer thereto duly authorised, subject to the following terms and conditions :—

- (a) That such cattle are moved by the most suitable route to the centre of consumption. All cattle travelling by road to be under the personal supervision of a responsible white man, or native approved of by the Cattle Inspector.
- (b) That before cattle may enter from a native district not included in any particular group of districts as defined in Section 6 (b) the written permission of owners, occupiers, or managers of all occupied land, and, in the case of native reserves, of the Native Commissioner of the district over which such cattle shall pass to the nearest station, siding, or centre of consumption is obtained; provided that in the event of such owners, occupiers, managers, or Native Commissioners refusing to grant such permission, the Controller of Stock may direct the issue of a permit of removal if satisfied that the necessary permission is withheld without good and sufficient cause.
- (c) That such cattle shall, on arrival at the centre of consumption, subject to the terms of clause (d) hereof, be immediately taken to the prescribed quarantine area, and there be quarantined and confined, and branded with the letters "V.D." on the near side of the neck under the supervision of a duly authorised officer.
- (d) That all cattle brought into any centre of consumption shall be disinfected by dipping or spraying at the public dipping station before being taken to the quarantine area.

- (e) That all cattle admitted to the quarantine area shall be slaughtered within 21 days of their admission, and only be permitted to leave the area for the purpose of being driven to the abattoir for slaughter. All such cattle shall, after admission to the said area, be considered as likely to be infected with disease, and, if found wandering outside the said area or in possession of any person, may be destroyed under an order of the Chief Inspector or Controller of Stock.
 - (f) That intermediate depots, or concentration camps, for slaughter stock may be allowed at centres approved of by the Chief Inspector of Cattle, provided that no such camp shall be situated within less than a radius of five miles of any commonage, town lands, or grazing ground common to any mining camp, railway station or siding.
3. The movement of cattle required for *bona fide* mining, farming, breeding and dairying purposes and for private milk supplies may be permitted on the written authority of a duly authorised officer, subject to the following terms and conditions :—
- (a) That such movement shall take place subject to the conditions set forth in Section 2 (a) and (b).
 - (b) That whenever such cattle shall at any place along the route have passed within a radius of less than five miles of an infected area, the cattle shall upon arrival at their destination be effectually isolated from all other cattle on the same land for a period of four weeks.
 - (c) That whenever the cattle being removed shall at any portion of the route have passed within native districts where infected areas exist, the consent in writing to such movement be obtained from all owners of cattle on farms adjoining that to which movement takes place; and in the case of native reserves of the Native Commissioners of the districts; provided that should such consent be unreasonably withheld by any of the aforesaid persons the Controller of Stock may direct the issue of a permit.
 - (d) That such cattle required for breeding and dairying purposes, or for private milk supplies, when moved to within the boundaries of the various commonages, town lands, or of grazing ground common to any mining camp or other centre where cases of African Coast Fever have occurred within 15 months, shall be confined in some enclosed place approved of by the local Cattle Inspector, and, if a case of African Coast Fever occur in such enclosure, shall not be liberated therefrom except in terms of Section 5 hereof, until 15 months after the last occurrence of African Coast Fever within the enclosure in which they are kept, nor shall they be allowed, after liberation, to run upon any of the land specified herein, unless such land has been free from African Coast Fever for a period of 15 months.
 - (e) All cattle introduced in terms of the preceding sub-section (d) shall, on arrival, be taken direct to the Government dipping station and there be dipped or sprayed.
 - (f) All cattle confined in terms of clause (d), and all calves born within the said enclosures, shall be sprayed every 14 days, as may be directed by the Cattle Inspector.
 - (g) No cattle shall be moved from one native district to another unless with the permission of the local Veterinary Officer and the Cattle Inspectors of the districts to and from which such movement takes place.
4. All calves having less than two permanent teeth running within the boundaries of the various commonages, town lands, or grazing ground common to any mining camp or other centres where cases of African Coast Fever have occurred within 15 months of the date of these Regulations, or born thereon after such date, shall be removed to some enclosed place approved of by the local Cattle Inspector, and shall not be liberated or allowed to run at large on such commonage, town lands or common grazing ground until 15 months.

after the occurrence of the last case of African Coast Fever within the enclosure in which they are confined, or upon such commonage, town lands or common grazing ground.

- (a) No calves shall be permitted to accompany working cattle travelling along the roads mentioned in Section 7, sub-section (c), and all calves born of such working cattle whilst travelling shall not be removed from the place where born.

5. For the purpose of cleansing an area of disease the Controller of Stock may, under the authority of the Administrator and on the advice of the Chief Inspector of Cattle, subject to such conditions as may be stipulated, permit the removal of calves and other cattle to an adjacent clean area.

6. The movement of working cattle other than those specified in Section 7 hereof may be permitted within the following areas and on the terms and conditions hereinafter set forth :—

- (a) Within a maximum radius of 15 miles of any working mine, or mine in course of development, for the purposes of such mine, provided that :—

- (1) Such cattle shall only be moved under permission of a duly authorised Officer, and shall be dipped every 14 days where a dipping tank is available within such area, or, in the absence of a dipping tank, be thoroughly sprayed with an insecticide.
- (2) Such permission shall not be granted where it conflicts with any other section of these regulations, or if such movement is considered to be dangerous to other cattle within the 15 mile radius.

- (b) Within the boundaries of the Gwelo and Lomagundi Native Districts, and within and between the boundaries of the following adjoining Native Districts : (1) Salisbury, North and South Mazoe ; (2) Hartley, Charter and Chilimanzi ; (3) M'tokos, M'rewas, Marandellas and Makoni ; (4) Inyanga, Makoni and Umtali (as defined by Government Notice No. 13 of 1899) ; (5) Along the road West of the Sabi River from Odzi Bridge to Makondo Copper Mine, subject to the following conditions :

- (1) That the movement will be permitted for such period as the Controller of Stock may in his discretion, and on the advice of the Chief Inspector of Cattle, deem expedient, provided that such permission may at any time be withheld or withdrawn without notice.
- (2) That all applications for removal shall be approved of by the Cattle Inspectors of the districts through which the cattle pass.
- (3) Provided that in the event of such Cattle Inspectors refusing to grant permits for the removal of cattle, the Chief Inspector may, on the advice of the local Veterinary Officer, direct the issue, if satisfied that the necessary permission is withheld without good and sufficient cause.
- (4) That all such cattle are dipped every 14 days where a tank is available, or, in the absence of a tank, are thoroughly disinfected by spraying.

7. The movement of " salted " or immune working cattle shall be permitted on the following terms and conditions :—

- (a) That such cattle have been registered and branded under the supervision of the Cattle Inspector with the brand, " T.O. " on near shoulder and the registration number on near horn, in terms of Section 7, clauses (a) and (b) of Government Notice No. 109 of 1905.
- (b) That the movement of such cattle shall only take place under the written permit of a duly authorised officer and subject to the conditions that they are disinfected by dipping every 14 days, where a dipping tank is available, or, in the absence of a dipping tank, by thorough spraying with an insecticide.

(c) That movement of such cattle only shall be permitted :—

- (1) Along the main roads of the Melssetter District.
- (2) From Umtali to the Makondo Copper Fields.
- (3) From Melssetter to Umtali.

8. In the event of failure of pasturage or water on land on which cattle are located the movement of such cattle will be permitted, provided :

- (a) That such movement shall be to the nearest available pasturage by the most suitable route.
- (b) That written consent be obtained in terms of Section 2, clause (b) hereof.
- (c) That such movement shall be by permit only of a duly authorised officer and under the supervision of a responsible white man, or of a native approved of by the Cattle Inspector of the district.

9. All applications for the removal of cattle under Sections 2, 3 and 8 hereof shall be submitted to, and approved of by, the local Veterinary Officer before being granted.

10. All permits granted under the provisions of these Regulations shall specify the number and brands of cattle, route to be travelled and period allowed, and may define places of outspan, and all other conditions endorsed on such permits by the officer issuing the same shall be strictly observed.

11. All veldt-fed animals within the limits of the various commonages or town lands, or other centre where there is common grazing ground within the districts of Umtali and Melssetter and the scheduled area at Selukwe, upon which public dipping tanks have been established, shall be dipped therein at least once every 14 days ; provided that the Controller of Stock may, on the advice of the Veterinary Department, direct the temporary suspension of this regulation for such reasons as he may regard as sufficient.

12. The following charges shall be paid at the time of dipping by the owner of the cattle or other animals required to be dipped under these regulations in respect of any dipping done at a public dipping tank :—

For Horned Cattle (six months old and over)	..	3d. per head.
For Horses and Mules	.. .. .	3d. „
For Calves (under six months) and Donkeys	..	2d. „
For Small Stock	.. .. .	$\frac{1}{2}$ d. „

with a minimum charge of 6d. for any number of animals not aggregating such fee under the above tariff.

13. Any disinfecting by spraying required to be done under these regulations shall be carried out with an approved insecticide by the owner of the animals so sprayed : provided that the Inspector may at his discretion carry out such disinfection with the assistance of and at the entire cost of the owner of the animals sprayed, the cost of such disinfecting being payable at the time of spraying.

14. Whenever the owner, occupier, or manager of a farm shall adopt means for cleansing his cattle running thereon, either by spraying or dipping or any other method permitted by these or any other regulations, the Cattle Inspector may order such natives or others as have cattle on the same farm to cleanse such cattle or any others before permitting them to enter or pass over such an area, and the Native Commissioner of the district in which such farm is situated may enter into an arrangement with the native owners of cattle, to cleanse such cattle at a charge to be mutually agreed upon between the said owner, occupier or manager and the said native owners.

15. Any person contravening the provisions of these regulations shall be liable to the punishments prescribed by the Ordinance, and in cases where no special punishment is prescribed by the said Ordinance to a fine not exceeding £20, or to a period not exceeding three months' imprisonment with or without hard labour in default of payment of any fine inflicted.

W. H. MILTON,

Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,

Treasurer.

No. 295 of 1908.

Department of Agriculture,

Administrator's Office,

Salisbury, 1st October, 1908

IMPORTATION OF STOCK.

UNDER and by virtue of the powers vested in me by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel Government Notice No. 8, of the 19th day of January, 1905, and so much of any other regulations as may be repugnant to or inconsistent with the subjoined regulations, which are hereby declared to be of full force and effect.

1. The importation of the following animals from the respective countries enumerated is prohibited, owing to the existence or supposed existence of destructive diseases affecting the said animals in the said countries:—

- (1) All animals from the island of Mauritius.
- (2) All animals from German South-West Africa. and all animals except donkeys from German East Africa.
- (3) Pigs from the colonies of the Cape of Good Hope, Transvaal, and the Orange River Colony, the Bechuanaland Protectorate, the Tati Concession, and other countries in which swine fever exists, subject, however, to the exceptions contained in the proviso to this section.
- (4) Dogs from the territories of North-Eastern and North-Western Rhodesia and Portuguese East Africa; provided, however, that dogs from countries from which importation is permitted may be introduced through the port of Beira and brought direct into this Territory.
- (5) Sheep and goats from (a) the districts of Albany, Alexandria, Bathurst Bedford, East London Fort Beaufort, Humansdorp, Jansenville, Kingwilliamstown, Komgha, Peddie, Somerset East, Stockenström, Uitenhage, and Victoria East, in the Cape Colony; (b) the districts of Barberton, Lydenburg, Marico, Pretoria, Rustenburg, Waterburg, and Zoutpansberg, in the Transvaal; (c) Swaziland; (d) Portuguese Territory; (e) places north of the Zambesi River.

Provided, however, that the Controller of Stock may at his discretion permit the importation of pigs under six months of age for breeding purposes from the places mentioned in sub-section (3), and sheep and goats from the places mentioned in sub-section (5) hereof, on production of a certificate of a duly authorised Government veterinary officer that such animals are free from disease, have not been in contact with diseased animals, and have not come from an area where destructive disease has existed for twelve months previously.

2 The importation of organic manures, except guano, is strictly prohibited, and the importation of bone meal and bones required for fertilising or feeding purposes will only be permitted when accompanied by the certificate of a responsible and competent person that they have been thoroughly disinfected by treatment by superheated steam or other approved method. Any such manures, bone meal or bones introduced into Southern Rhodesia contrary to this regulation shall be liable to immediate destruction.

3. The areas set out in Schedule "A," and such further areas as may be added to the said schedule, shall be used in connection with pasture lands of the places to which they relate for the quarantining of animals suffering from any destructive disease other than glanders, epizootic lymphangitis or African Coast Fever.

4. The appointment of the areas set out in Schedule "B" hereto for the depasturing and quarantining of animals for slaughter in connection with the places therein mentioned is confirmed.

5. The several districts of Southern Rhodesia are hereby declared to be an area infected with scab amongst sheep and goats and the movement of all sheep and goats from any farm to beyond the limits thereof, or from their usual grazing ground within the limits of any town lands or native reserves to any other place, is prohibited, except under the written permit of an Inspector or Sub-Inspector. Such permit shall set forth the number and

description of animals to be moved, the route they shall travel and the period for which the permit shall be in force. In cases where it may appear necessary or desirable the person to whom any such permit is issued may be required to cause the animals referred to therein to be dipped before being moved.

6. The introduction of sheep and goats against which no prohibition exists may be permitted by rail, subject to the following provisions :—

- (1) Plumtree shall be regarded as the port of entry.
- (2) All animals shall be accompanied by a certificate in the form set out in Schedule "C" hereto; provided, however, the Controller of Stock may allow the introduction of well-bred sheep or goats intended for sale or stud purposes without being previously dipped.
- (3) All animals shall be thoroughly dipped at their owners' expense within sixteen days after their arrival; provided, however, that animals intended for immediate slaughter shall be exempt from dipping if marked with a distinctive brand on the back.

7. The introduction of sheep and goats against which no prohibition exists may be permitted by road, subject to the following provisions :—

- (1) M'Lala Drift and Fort Tuli shall be regarded as ports of entry.
- (2) All animals shall be accompanied by a certificate in the form set out in Schedule "C" hereto.
- (3) All animals shall be thoroughly dipped at their owners' expense within sixteen days after their arrival.

8. The owner or person in charge of any horse, mule or donkey entering Southern Rhodesia by rail shall immediately report such arrival to the Veterinary Office at Salisbury, Bulawayo and Umtali respectively, and no such animal shall be detained at any intermediate station without the written authority of a Government Veterinary Surgeon.

9. The owner or person in charge of any horse, mule or donkey entering Southern Rhodesia by road shall immediately report such arrival at the police camp nearest to the place where such entry is made, and the officer in charge of such police camp shall immediately report to the Veterinary Department, which shall direct what steps are to be taken to test such animals with mallein, as in the following clause provided.

10. All horses, mules and donkeys upon entering Southern Rhodesia shall be tested with mallein, and the owner or person in charge of such animals shall, in all respects, carry out the lawful directions of the Inspector while such animals are being tested; provided that this regulation shall not apply to animals in transit by railway through Southern Rhodesia and which are not detained *en route*.

11. The Inspector may direct the detention of any animal, and its isolation for the purposes of such examinations and tests as may be deemed expedient during which period of isolation or detention it shall be maintained and tended at the expense of the owner. If in the case of any such animal a second injection of mallein, applied at an interval of not less than ten days, is followed by a reaction indicative of the existence of glanders, such animal shall be forthwith destroyed.

12. Horses, mules and donkeys lawfully in this Territory, and required for purposes necessitating frequent crossing of the border to and from Portuguese East Africa, may be allowed so to cross on such terms as to registration, branding, testing and other conditions as the Chief Veterinary Surgeon may from time to time deem expedient to prescribe.

13. All horses, mules and donkeys depastured on the town lands of Melsetter and Umtali or on any public outspan adjoining such lands, and within the following area known as the Penhalonga, Imbesa and Samba Valleys, as bounded by the Umtali Waterfall Range on the north, the divide following beacons 18, 24 and 27 on the east, the Christmas Pass Range on the south, and the Palmyran Range on the west, in the district of Umtali, shall be dipped every fourteen days, by or at the expense of the owner or person in charge of such animals, unless the local Veterinary Officer shall see fit to dispense with such dipping.

14. An Inspector may direct the thorough cleansing and disinfecting of trucks which may be reasonably suspected of being sources of infection of any destructive disease, and may direct the destruction of *truck fittings*, fodder, excreta or other matter or thing which may be reasonably calculated to convey such infection.

15. Any person contravening the provisions of these regulations, or the instructions or directions given in terms of these regulations, shall be liable in respect of each offence to a penalty not exceeding twenty pounds, or in default of payment to imprisonment with or without hard labour for a period not exceeding three months, unless where more or heavier penalties have by the aforesaid Ordinance, or by other regulations framed thereunder, been expressly provided.

W. H. MILTON,

Administrator

By command of His Honour the Administrator

F. J. NEWTON,

Treasurer

SCHEDULE "A."

Areas on or near pasture land used in connection with townships set apart for the quarantining of animals suffering from any destructive disease other than glanders, epizootic lymphangitis or African Coast Fever :—

1. For the township of Salisbury and its neighbourhood, the Government Farm Makabusi, as defined in Government Notice No. 13 of 1898, namely, about six miles from Salisbury on the Old Charter Road, and bounded on the north, north-east and west by the farm "Willowdale," and on the south and south-east by the Makabusi River.

2. For the township of Umtali, a triangular piece of land situate to the north-east of the township, being that portion of the farm "Birkley" which falls in British territory.

3. For the township of Melsetter, a piece of land included within those lines bounding the pasture lands laid out around the township, which are in common with the outspan in the west, Sawyerombi on the north, and Westfield on the north-east, bounded further on the south by a line drawn from the common beacon of Westfield and Lindley to the common beacon of Fairfield and outspan.

4. For the township of Enkeldoorn, a piece of land about $2\frac{1}{2}$ miles due west of the township and bounded as follows : From a point about 400 yards above the junction of a stream running south of Enkeldoorn township with streams running west from the Police Camp ; thence along the first stream to the junction aforementioned ; thence along a valley running due south from the said junction to a point about 700 yards distant ; thence in a north-westerly direction to a point on the top of a rise about 1,200 yards distant ; thence in a straight line to the first-mentioned point.

5. For the township of Victoria, a strip of land half-a-mile in width lying immediately to the west of the gunpowder magazine, and extending from the Macheke River to the Chekoto range of hills.

6. For the township of Gwelo, a triangular piece of ground within the reserved lands around Gwelo. It is bounded south by the Watershed Block along its boundary running from its joint beacon with Kanuck westwards to another beacon 1,518 Cape rods distant, bounded north-westwards by a line about 1,350 rods in length to the Inoculation Station, and bounded north-eastwards by a line from the first-mentioned beacon to the Inoculation Station, and about 1,400 rods in length. This piece of ground is called the Inoculation Camp.

7. For the township of Bulawayo, that portion of the commonage bounded on the west and north by the Bulawayo-Mafeking and Gwelo railway lines, on the east by the road known as "Hillside Avenue," on the south to the limits of the commonage and Hillside, known as "Napier's Lease," approximately 4,750 acres in extent.

SCHEDULE "B."

Areas set apart for depasturing and quarantining of animals for slaughter :—

SALISBURY.—Description of the area.—A piece of land, 400 acres in extent, situated on the Makabusi River, below Maggio's plot, towards the southern boundary of the Salisbury commonage.

BULAWAYO.—Description of the area.—That piece of fenced land situated on the Bulawayo commonage between the railway line, to the south, and the Solusi Road, adjoining and to the south-west of the Government dipping tank, in extent 1,000 acres, more or less.

GWELO.—Description of the area.—Starting from a point where the Ingwenia Road crosses the railway, along this road past the sanitary stables to a point a quarter of a mile west, thence in a line parallel with the railway to the Gwelo River, thence along the river to the commonage beacon No. 11, thence in a straight line to the Shamrock road where it is intersected by the Scout's Spruit, thence along the Shamrock road to where it joins Main Street extension along this to the railway line, and down this to the starting point.

UMTALI.—Description of the area.—Starting from a point at the south-east corner of the farm "Devonshire" and south-west of "Waterfall," up the stream to where it is joined by the stream commonly known as Rifle-butt Spruit, and up this spruit to a point 300 feet below Paulington Bridge. Thence almost due north on the west of Penhalonga Road to the sanitary pits and from the sanitary pits to the Cemetery, thence due west to the "Devonshire" line and along this line south to south-west corner beacon of "Waterfall."

SELUKWE.—Description of the area.—A piece of fenced land, in extent about 300 acres, situated on the farm "Sebanga" and adjacent to the township of Selukwe.

PENHALONGA.—Description of the area.—A piece of land bounded as follows :—To the northward by a line starting from the south-east beacon of the hotel stand to the south-west and south-east beacons of Crawford's butchery. To the eastward from the south-east beacon of Crawford's butchery to the northern boundary of the Penhalonga Proprietary Mines' ground. To the southward along the northern boundary line of the Penhalonga Proprietary Mines' ground. To the westward from the north-west beacon of the Penhalonga Proprietary Mines' ground to the south-east beacon of the hotel stand.

VICTORIA.—Description of the area.—A strip of land, half-a-mile in width, lying immediately to the west of the gunpowder magazine, and extending from the Macheke River to the Chekoto range of hills

SCHEDULE "C."

I,
residing at
in the district of in the
..... Colony, do solemnly and sincerely
declare that the animals enumerated below are free from any contagious
disease, including scab, and have not been in contact with any infected
animals within six months from date hereof, and that to the best of my
knowledge and belief such animals in travelling to* Station
will not come in contact with any animals amongst which scab or any other
contagious disease has existed during that period ; further, that such animals
were thoroughly disinfected by dipping on, and
will enter Southern Rhodesia within ten days of having been dipped.

And I make this solemn declaration conscientiously believing the same to
be true.

Declared to at on this..... day
of before me

.....
Resident Magistrate, Government Veterin-
ary Surgeon, Scab Inspector, or Police
Officer of district from which animals are
being sent.

Number and general description of animals being sent

Owner's Name and Address

Place in Southern Rhodesia to which animals are being sent

* Station within Colony of origin.

CERTIFICATE ISSUED UNDER PROVISIONS OF SECTION I, GOVERNMENT NOTICE No. 295 OF 1908.

This is to certify that the animals enumerated below are, in my opinion, free from any destructive disease, including scab, and to the best of my knowledge and belief have not been in contact with any infected animals nor come from, or through, a locality where any such disease is known to exist or has existed for twelve months from date hereof.

Date

Place

.....
Signature of Government Veterinary Surgeon

Number and general description of animals.....Pigs,Sheep, ..
.....Goats.

Place from which animals are to be sent

Owner's Name and Address

Place in Southern Rhodesia to which it is desired to send the animals

No. 110 of 1908.

Department of Agriculture,

Administrator's Office,

Salisbury, 16th April, 1908.

IMPORTATION OF CATTLE.

UNDER and by virtue of the powers conferred on me by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel and repeal so much of the Regulations published under Government Notice No. 187, dated the 26th of July, 1906, as relate to the importation of cattle from the Colony of the Cape of Good Hope and the United Kingdom of Great Britain and Ireland, and make the following provisions in lieu thereof:—

1. The importation of cattle may be permitted from the Colony of the Cape of Good Hope and the Orange River Colony on the following terms and conditions:—

- (1) A permit shall be required from the Chief Inspector which may contain such conditions as shall from time to time appear expedient.
- (2) Applications for permission to import shall be in the form "A" attached hereto, and accompanied by a declaration in the annexed form "B."
- (3) The importation of cattle with more than two permanent central incisor teeth shall not be permitted.
- (4) All importations shall be by rail, and for the purposes thereof Bulawayo shall be regarded as the port of entry.

- (5) All cattle imported in terms of these Regulations shall on arrival at Bulawayo, Salisbury, or Umtali be removed to a place of quarantine under the supervision of an Inspector of Cattle, there to be submitted to such examination and tests as the Chief Inspector may direct. If such examination or tests disclose the existence of any destructive disease the cattle shall be immediately destroyed and the carcasses thereof disposed of in such manner as a Government veterinary surgeon may authorise or require. The Chief Inspector may permit of any examination or tests as aforesaid being dispensed with in the case of cattle in transit by rail for any place beyond the boundaries of Southern Rhodesia.
 - (6) All expenses or losses incident to quarantine, examination, testing or destruction as aforesaid shall be borne by the owner of the cattle.
2. The importation of cattle from the United Kingdom of Great Britain and Ireland may be permitted under the following terms and conditions:—
- (1) Importation shall be through and direct from the coast ports of the Cape Colony, and there shall be a consignment note or other satisfactory evidence that cattle so imported have come direct from Great Britain or Ireland.
 - (2) The provisions of sub-sections (5) and (6) of section 1 hereof shall apply to importations in terms of this section.
3. No person shall import cattle in terms of these Regulations except for his own use, provided however that permission may be granted to import for others on the applicant disclosing the name of the person or persons for whom he proposes to act.
4. Any person introducing cattle in contravention of these Regulations, or failing to comply with any conditions attached to permits to import, or furnishing applications, declarations, or other necessary documents known to be false in any material particular, or failing to comply with all lawful directions as to quarantine, examination, testing, destruction or disposal of carcasses, shall be liable to a fine not exceeding £20 for each animal in respect of which such offence shall have been committed, and in default of payment to imprisonment with or without hard labour for any period not exceeding six months, unless higher or greater penalties shall have been provided for such offences by the "Animals Diseases Consolidation Ordinance, 1904," provided however that the penalties imposed by these Regulations shall not exempt any cattle from destruction in terms of the aforesaid Ordinance.

W. H. MILTON,

Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,

Treasurer.

ANNEXURE "A."

APPLICATION FOR CATTLE IMPORTATION PERMIT.

GOVERNMENT NOTICE NO. 110 OF 1908, SECTION 1 (2).

1. Applicant's Name and Address.....
 2. Number and Class of Cattle to be imported.....
 3. Area or Farm and District where Cattle are at present located.....
 4. Area or Farm and District to which Cattle are to be moved.....
- Applicant's Signature.....
- Date
- Application
- Permit No.

No. 60 of 1909.

Department of Agriculture,
Administrator's Office,
Salisbury, 1st April, 1909.

IMPORTATION OF CATTLE.

UNDER and by virtue of the powers vested in me by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel and repeal Government Notice No. 124 of 1908, and do hereby declare and make known that, notwithstanding anything to the contrary elsewhere provided, the importation of cattle for *bona fide* slaughter purposes may be permitted into the Umtali district from the adjoining Portuguese territory, under the following terms and conditions:—

- (1) The importation and disposal of cattle, introduced in terms of these regulations, shall be under the absolute control and direction of the local Veterinary Surgeon or other duly appointed officer, and shall be regulated by the requirements of consumption.
- (2) The importation shall be by rail only, and all cattle shall be detrucked at the slaughter enclosure and immediately confined therein.
- (3) All cattle admitted to the slaughter area shall be immediately branded with the letters "V.D."
- (4) All cattle admitted to the slaughter area shall be slaughtered within ten days of their admission, and under no pretext whatever shall cattle so admitted be permitted to leave the said area alive; all such cattle shall, after admission to the said area, be considered as likely to be infected with disease, and if found wandering outside the said area or in possession of any person, may be destroyed under an order of the Chief Inspector or Controller of Stock.
- (5) No meat shall be removed from the said area without special permission unless it is entirely free from skin and ears.
- (6) The hides of animals slaughtered in the said enclosure shall be immediately immersed in an approved insecticide for a period of not less than twelve hours, and shall not be removed from the said enclosure unless accompanied by a certificate signed by a Veterinary Surgeon that they have been satisfactorily disinfected and dried.
- (7) Any person contravening the provisions of these regulations or the instructions or directions of the local Veterinary Surgeon or other duly authorised official, given in terms of these regulations, shall be liable, in respect of each offence, to a penalty not exceeding £20, or, in default of payment, to imprisonment, with or without hard labour, for a period not exceeding three months, unless where more severe or heavier penalties have, by the aforesaid Ordinance, been expressly provided.

W. H. MILTON,
Administrator

By command of His Honour the Administrator in Council.

F. J. NEWTON,
Treasurer.

No. 87 of 1909.

Department of Agriculture.
Administrator's Office,
Salisbury, 28th April, 1909.

IMPORTATION OF CATTLE.

UNDER and by virtue of the powers conferred on me by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel Annexure "B" referred to in sub-section (2) of section 1 of Government Notice No. 110

of 1908, and in place thereof do substitute the following which shall, from date of publication hereof, be the form required to accompany Annexure "A," also referred to in aforementioned sub-section, viz.:—

ANNEXURE "B."

I, residing on the farm
..... in
do solemnly and sincerely declare that the animals enumerated below have been in my possession since birth, and that lung-sickness, pleuro-pneumonia or other contagious or infectious disease has not existed amongst any of my cattle, nor on my farm, nor among any cattle with which these animals have been in contact within the last four years, and that these animals have never been exposed for sale in any public market or stock fair nor been in contact with strange cattle, and that to the best of my knowledge and belief such cattle in travelling to..... Station (*i.e.*, Station where cattle are to be trucked) will not come into contact with any animals amongst which lung-sickness or any other contagious or infectious disease has existed during that period.

And I make this solemn declaration conscientiously believing the same to be true.

Declared to at..... on this.....
day of....., before me.....
Resident Magistrate for the district of.....
Number of Animals,..... Bulls..... Heifers, Breed.....
Seller's Name and Address.....
Purchaser's Name.....
Place in Southern Rhodesia to which animals are being sent.....

W. H. MILTON,
Administrator.

By command of His Honour the Administrator in Council

F. J. NEWTON,
Treasurer.

No. 268 of 1907.

Department of Agriculture,
The Treasury,

Salisbury, 26th December, 1907.

REMOVAL OF CATTLE FOR SALE.

NOTWITHSTANDING anything to the contrary contained in the Regulations published under Government Notices Nos. 188 of 1906 and 217 of 1907, I, under and by virtue of the powers conferred upon me by the "Animals Diseases Consolidation Ordinance, 1904," do hereby provide as follows:—

1. The assembly of cattle for purposes of sale by auction or otherwise may be permitted at such places and under such conditions as the Chief Inspector may from time to time prescribe.

2. The movement of cattle into the province of Mashonaland and the fiscal division of Gwelo from other places in Southern Rhodesia may be permitted under such conditions as the Chief Inspector may from time to time prescribe.

3. The granting of permits for the purposes of Sections 1 and 2 hereof and the nature of the conditions to be attached thereto shall be at the absolute discretion of the Chief Inspector.

4. Any person contravening the provisions of these Regulations or the conditions attached to permits issued thereunder shall be liable to a fine not exceeding £20 or in default of payment to imprisonment with or without hard labour for a period not exceeding three months.

W. H. MILTON,
Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,
Treasurer.

No. 356 of 1908.

Department of Agriculture,
Administrator's Office,
November, 1908.

MOVEMENT OF CATTLE INTO MATABELELAND.

NOTWITHSTANDING anything to the contrary contained in the Regulations published under Government Notices Nos. 188 of 1906 and 217 of 1907, I, under and by virtue of the powers conferred on me by the "Animals Diseases Consolidation Ordinance, 1904," do hereby provide as follows:—

1. The movement of cattle from the Province of Mashonaland into the Province of Matabeleland and from the Fiscal Division of Gwelo into other parts of Matabeleland may be permitted under such conditions as the Chief Inspector may from time to time prescribe, provided, however, that such movement shall not be permitted in respect of cattle imported from the country to the North of the Zambesi River until they shall have first remained for a period of at least twelve months in the Province of Mashonaland or the Fiscal Division of Gwelo.

2. The granting of permits for the purposes hereof, and the nature of the conditions to be attached thereto, shall be at the absolute discretion of the Chief Inspector.

3. Any person contravening the provisions of these regulations, or the conditions attached to permits issued thereunder, shall be liable to a fine not exceeding £20, or, in default of payment, to imprisonment with or without hard labour for a period not exceeding three months.

By Command of His Honour the Administrator in Council.

No. 39 of 1909.

Department of Agriculture,
Administrator's Office,
Salisbury, 11th March, 1909.

MOVEMENT OF CATTLE, PROVINCE OF MATABELELAND.

1. UNDER and by virtue of the powers vested in me by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel and withdraw the Regulations promulgated by Government Notices Nos. 188 of 1906 and 216 of 1907, and declare the following to be of full force and effect in lieu thereof within the province of Matabeleland, exclusive of the district of Gwelo, as described and defined by section 4 (c) of the Southern Rhodesia Boundary Regulations Amendment Regulations, 1898, which is hereby declared to be an area infected with a destructive disease, and is hereinafter called the said area.

2. The movement of all cattle within the said area is prohibited save and except

- (a) on permission granted by the local Cattle Inspector ;
- (b) within the boundaries of any single farm where such cattle are depastured ;
- (c) within an area of land enclosed by a substantial fence ;
- (d) within a radius of four miles from any native kraal situate within the boundaries of any native location or reserve, and as hereinafter further provided.

3. The movement of cattle for slaughter, grazing, *bona fide* farming, mining or breeding purposes, or for private milk supplies, shall be permitted under the written authority of an official thereto duly authorised, subject to the following terms and conditions :—

- (a) that the written permission of owners, occupiers, or managers of all occupied land, and in the case of native reserves, of the Native Commissioner of the district over which such cattle shall pass, is first obtained ; provided that in the event of such owners, occupiers, managers or Native Commissioners refusing to grant permission, the Controller of Stock may direct the issue of a permit of removal, if satisfied that the necessary permission is withheld without good and sufficient cause ;
- (b) that such cattle shall, before being moved, be thoroughly disinfected by dipping or spraying, to the satisfaction of the officer issuing the permit, and at the expense of the owner of such stock, and, if intended for slaughter, shall where possible be branded, under the supervision of the officer issuing the permit, with the letters " V.D. " on the near side of the neck ;
- (c) that cattle intended for slaughter shall, on arrival at destination subject to the terms of clause (d) hereof, be immediately taken to the prescribed quarantine area and there be quarantined and confined, and, where not branded in terms of clause (b) hereof, be similarly branded under the supervision of a duly authorised officer ;
- (d) that all cattle intended for slaughter brought to their destination and not disinfected by dipping or spraying, in terms of clause (b) hereof, shall be immediately taken to the public dipping station and there be thoroughly dipped or sprayed before being taken to the quarantine area ;
- (e) that all cattle admitted to the quarantine area shall be slaughtered within twenty-one days of the admission and only be permitted to leave the area for the purpose of being driven to the abattoir for slaughter ; all such cattle shall, after admission to the said area, be considered as likely to be infected with disease, and if found wandering outside the said area, or in possession of any person, may be destroyed under an order of the Chief Inspector or Controller of Stock

4. The movement of working cattle may be permitted under the following conditions only :—

Within the said area from private farms, mines and trading stations to any centre of consumption, or to or from a railway station or siding, or to and from any other farm under the permit of a duly authorised officer, which permit shall fully set forth the route to be traversed ; provided that no permit shall be issued until the person applying for the same shall produce the written consent of owners, occupiers or managers of occupied lands proposed to be traversed, and in the case of native reserves, of the Native Commissioners, and that such cattle, before being moved, be thoroughly disinfected by dipping or spraying at the expense of the owner, and to the satisfaction of the officer issuing the permit ; provided, further, that in the event of such consent being unreasonably withheld, the Controller of Stock may direct the issue of a permit.

5. All applications for the removal of cattle from one native district to another shall be submitted for the approval of the Government Veterinary Surgeon at Bulawayo and the Cattle Inspector of the district to which the removal is to be made.

6. All permits granted under the provisions of this notice shall specify the number and brands of cattle, route to be traversed, and time allowed for each journey. Any breach of these or other conditions endorsed on the permit by the issuing officer shall be deemed a contravention of these Regulations, in terms of section 9 hereof.

7. All veld-fed animals within the limits of the various commonages or townlands, or other centres where there is a common grazing ground and upon which public dipping tanks have been established, shall be dipped therein at least once every fourteen days; provided that the Controller of Stock may, on the advice of the Veterinary Department, direct the temporary suspension of this Regulation, for such reasons as he may regard as sufficient.

8. The following charges shall be paid at the time of dipping by the owner of the cattle or other animals required to be dipped under these Regulations, in respect of any dipping done at a public dipping tank:—

For Cattle (over six months)	..	..	3d. per head.
„ Horses and Mules	..	..	3d. „
„ Calves (six months and under)	..	..	2d. „
„ Small Stock	..	..	½d. „

with a minimum charge of 6d. for any number of animals not aggregating such fee under tariff.

9. Any disinfecting by spraying required to be done under these Regulations shall be carried out with an approved insecticide by the owner of the animals so sprayed; provided that the Inspector may, at his discretion, carry out such disinfection, with the assistance of and at the entire cost of the owners of the animals sprayed, the cost of such disinfection being payable at the time of the spraying.

10. Any person contravening any of the provisions of these Regulations shall, upon conviction, be liable, in respect of each offence, to the fines and punishments prescribed by the Ordinance; and, in the cases where no special punishment is provided, to a fine not exceeding £20; or, in default of payment, to imprisonment, with or without hard labour, for any period not exceeding three months, unless the penalty be sooner paid.

W. H. MILTON,

Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,

Treasurer

No. 101 of 1909.

Department of Agriculture,

Administrator's Office,

Salisbury, 19th May, 1909.

UNDER and by virtue of the powers in me vested by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby declare the disease amongst live stock, due to the organism known as *Trypanosoma Dimorphon*, to be a destructive disease within the meaning of the said Ordinance.

W. H. MILTON,

Administrator. 15]

By command of His Honour the Administrator in Council.

F. J. NEWTON,

Treasurer.

No. 102 of 1909.

Department of Agriculture,
Administrator's Office,

Salisbury, 19th May, 1909.

UNDER and by virtue of the powers in me vested by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby declare the native district of Hartley, as bounded and described in Government Notice No. 13 of 1899, to be an area infected with the disease amongst live stock due to the organism known as Trypanosoma Dimorphon, which disease has, by Government Notice No. 101 of 1909, been declared a destructive disease within the meaning of the said Ordinance.

And I do further declare and make known that until further notice no animal within the meaning of the Ordinance shall be permitted to be moved from within the said area to any place without the said area.

Provided, however, that animals in transit by rail, coming from beyond the limits of the said district, shall be allowed to pass through the district, if not removed from the trucks in which they are being conveyed within the limits of the said district.

W. H. MILTON,
Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,
Treasurer.

No. 45 of 1909.

Administrator's Office,
Salisbury, 13th March, 1909.

RABIES.

UNDER and by virtue of the powers vested in me by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel and withdraw the Regulations promulgated by Government Notices Nos. 42, 156 and 228, of 1907, except as to acts done or penalties incurred at the date of the coming into force of this Notice, and except as to officers appointed under Government Notice No. 286 of 1906, whose appointments shall remain valid for the purposes of this Notice, and declare the following Regulations shall have full force and effect in lieu thereof:—

1. All and several the various native districts of Southern Rhodesia are hereby declared to be areas infected with the disease of rabies.

2. Subject to any penalty a dog owner may have incurred under Government Notice No. 285 of 1906 by not registering his dog before the first day of February, 1907, the owner of any unregistered dog liable to registration may register the same at any time after the said date.

3. On and after the date of this Notice becoming operative the owner of every dog arriving at the age of three months, and the owner of every dog imported into Southern Rhodesia after that date, shall register such dog with an official appointed for that purpose, provided that this provision shall not apply to any municipality, township or similar area in which provision for registration exists and is duly enforced.

4. A registration badge shall be issued for each and every dog registered and the said badge shall be attached to a proper and sufficient collar to be supplied by the owner, which must be placed and kept on each dog registered.

5. A fee to cover the cost of registration and supply of badge in the amount of sixpence will become demandable and payable on registration of each dog.

6. Any dog found at large after the date of this Notice becoming operative, not having and bearing a registration badge duly issued by an official or the local authority, may be summarily destroyed by any person.

7. Any Magistrate, Police Officer, Native Commissioner, Government Veterinary Surgeon, or other official vested with the performance of functions under the "Animals Diseases Consolidation Ordinance, 1904," may, on it appearing to him that any dog or other animal is showing symptoms which justify investigation as to whether such dog or animal is suffering from rabies or not, order the proper detention, isolation and control of such dog or animal, either in the hands of the owner or at some other suitable place.

8. Should any dog show symptoms which lead to the suspicion that such dog may be suffering from rabies, the owner thereof shall forthwith notify the fact to the nearest official vested with powers under these Regulations, who shall immediately report the same to the Chief Veterinary Surgeon, and shall either destroy the said dog or isolate and secure it for further observations.

9. On its appearing that any animal is actually suffering from rabies, any of the above-mentioned officials may order the destruction of such animal, or may himself destroy it, and may further take control of or destroy, if deemed necessary, any animal which has been in contact with a rabid animal or an animal suspected of being rabid.

10. The carcases of all animals destroyed on account of their being infected with rabies shall be thoroughly burnt by the person or official destroying them, save that such parts as may be required for scientific investigation may be retained under proper precautions. In any case in which a human being has been bitten by a rabid animal, the head of such animal shall, if possible, be taken and sent to the nearest veterinary official.

11. In the event of any outbreak of rabies occurring, all owners of dogs within fifteen miles of such outbreak, or such other area as may be fixed, shall, on notification by any of the above-mentioned officials, or by Government Notice in the *Gazette*, at once place and keep their dogs in a safe enclosure, or chained up, for a period of not less than six weeks from such notification, or such other period as may be fixed, but may be taken out for exercise if kept on a chain or leash held by the person exercising them.

12. Any dog found at large in a notified area at any time during the prescribed period may be summarily destroyed by any person, and the owner or person responsible for the custody of such dog shall be liable to the penalty hereinafter laid down.

13. Any person contravening any of the above Regulations, or failing to carry out any of the provisions thereof, shall be liable, on conviction, to a fine not exceeding £10 for each offence; or, in default of payment, to imprisonment, with or without hard labour, for a period not exceeding one month.

W. H. MILTON,
Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,
Treasurer.

No. 249 of 1908.

The Treasury,
Salisbury, 27th August, 1908.

PROTECTION OF TREES.

IT is hereby notified for public information that any person who shall cut down for use as fuel, or for any other purposes than *bona-fide* farming, mining or manufacturing purposes, or cause to be so cut down the "Wild Westeria" (native name M'Pakwa or M'poea) tree, will be liable to prosecution for contravention of the provisions of the Forest and Herbage Preservation Act 1859, and upon conviction to a fine not exceeding £100, or to imprisonment with or without hard labour for a term not exceeding six months, or to such fine and imprisonment, or to such imprisonment without a fine.

W. H. MILTON,
Administrator.

By command of His Honour the Administrator,

F. J. NEWTON,
Treasurer.

SUMMARY OF "THE GAME LAW CONSOLIDATION ORDINANCE, 1906," AND REGULATIONS ISSUED THEREUNDER.

The Ordinance divides the game into three distinct classes, described as follows :—

- (a) Birds and Small Buck.
- (b) Bushbuck, Hartebeest, Impala, Lechwe, Pookoo, Roan and Sable Antelope, Sitatunga, Taesssibe, Waterbuck and Wildebeest.
- (c) Royal Game, which includes Eland, Elephant, Giraffe, Gemsbok, Hippopotamus, Inyala, Koodoo, Ostrich, Rhinoceros, Springbuck and Zebra.

The shooting season for Class "A" is as follows :—

In Mashonaland :

Birds from 1st May to 30th September.

Small Buck from 1st May to 31st October.

In Matabeleland :

Birds and Small Buck from 1st May to 31st October.

To shoot in Class "A" a licence costing £1 per annum is required. This entitles holders to hunt in both Provinces during the open season.

Class "B."—The season opens on 1st July and closes on 30th November in both Provinces. The licence fee is £25 for non-residents and £5 for persons having their domicile in Southern Rhodesia. This licence entitles the holder to shoot up to 15 head, which number may be increased to a total of 25 upon payment of a further sum of £15 in the one case and £5 in the other.

Class "C."—The Administrator may, if he is satisfied that the animals are actually required for scientific purposes, grant to the holder of a game licence permission to shoot or capture any of the species included in this Class. Such permit requires a £5 stamp. Applications in writing, together with proof of *bona-fides*, should be addressed to the Secretary for Agriculture.

Game for Farming Purposes.—Permits are granted for the capture of Eland, Ostrich, Zebra or other animals for the purposes of breeding or farming. Such permits require a stamp of the value of £1 and remain in force for six months. Application, accompanied by a sworn declaration, should be made through the Secretary for Agriculture or the Civil Commissioner of the district.

Game Injuring Crops.—The occupier of any cultivated land or any person acting under the authority of such occupier, may at any time destroy game actually doing damage in such land.

Elephants on occupied farms. *Melsetter.*—The destruction of Elephants when found on occupied farms on the High Veldt in Melsetter District is authorised (*Vide* Government Notice No. 284 of 1908).

Tsetse Fly, Hartley District.—Government Notice No. 40 of 1909 withdraws the Close Season for Class "B" in a certain area in the Hartley District until 30th June, 1910, and transfers from Class "C" to Class "B" Eland, Koodoo, and Zebra so far as that area is concerned. This means that these species may be shot by Residents of Southern Rhodesia on a £5 licence, and by non-Residents on a £25 licence, in this area, at any time up to the 30th June, 1910, in addition to the game described in Class "B."

Game in Class "A" may be hunted in the close season ending 30th April, 1909, on private land in the Melsetter District by holders of a licence.

Protected Areas.—No game may be hunted or killed within the limits of the Commonages or Townlands of Salisbury, Bulawayo, Umtali and Melsetter; within a radius of two miles of the Court House, Gwelo, or within the Urungwe Game Sanctuary, as defined by Government Notice No. 237 of 1906.

"Locust Birds" are strictly protected, *vide* Government Notice No. 121 of 1907.

Export of Game.—No living Game or the Eggs of any Game birds may be exported beyond the limits of Southern Rhodesia without a written permit.

Shooting on Private Land.—A licence does not entitle the holder thereof to shoot on private land without the permission of the landowner.

No. 128 of 1909.

Department of Agriculture,
Administrator's Office,

Salisbury, 10th June, 1909.

GAME LAW CONSOLIDATION ORDINANCE, 1906.

UNDER and by virtue of the powers vested in me by the "Game Law Consolidation Ordinance, 1906," I do hereby declare and make known that the area described in section 1 of Government Notice No. 40 of 1909 shall be extended and include the area bounded as follows:—

From the Railway bridge on the Umfuli River thence north-westwards along the Umfuli River to where it joins the Umniati River, thence southwards along the Umniati River to where it joins the Umsweswe River, thence eastwards along the Umsweswe River up to the drift at the Lydia Mine, thence along the old road from Lydia Mine to Etna Mine and to Inez Mine, thence northwards along the road from Inez Mine to Hartley, thence in the direction of the Railway bridge to the starting point on the Umfuli River.

F. J. NEWTON,
Acting Administrator.

By command of His Honour the Acting Administrator in Council.

P. D. L. FYNN,
For Treasurer.

No. 129 of 1909.

Department of Agriculture,
Administrator's Office,

Salisbury, 10th June, 1909.

UNDER and by virtue of the powers vested in me by sub-section (2) of section 4 of the "Game Law Consolidation Ordinance, 1906," I do hereby suspend the operation of sections 5 and 12 of the said Ordinance in regard to all game in Class "B" and the following game in Class "C," viz., eland, koodoo, zebra and Burchell's zebra or quagga, within the area described in section 1 of Government Notice No. 40 of 1909, as amended by Government Notice No. 128 of 1909.

F. J. NEWTON,
Acting Administrator.

By command of His Honour the Acting Administrator in Council.

P. D. L. FYNN,
For Treasurer.

No. 9 of 1907.

NORTH-WESTERN RHODESIA.

WHEREAS there is reason to believe that certain diseases in cattle exist in the Territory of Southern Rhodesia, the Bechuanaland Protectorate, German West Africa, Portuguese West Africa, and Portuguese East Africa, and it is therefore expedient to take measures to prevent the spread of such diseases to North-Western Rhodesia.

Now, therefore, under and by virtue of the powers in me vested by Section 2 of His Excellency the High Commissioner's Proclamation, No. 18 of 1906, bearing date the 31st day of July, 1906, I do hereby order and declare and make known as follows:—

1. That Government Notices, No. 2 of 1902, and No. 11 of 1906, are hereby withdrawn, and the following Regulations substituted:

2. The introduction of any bull, ox, cow, heifer or calf or the meat of any such animals, into the Territory of North-Western Rhodesia from the Territories of Southern Rhodesia, the Bechuanaland Protectorate, German West Africa, Portuguese West Africa, and Portuguese East Africa, is prohibited until further notice.
3. No person shall introduce into the Territory of North-Western Rhodesia from the Territories aforesaid, any horse, mare, gelding, mule, donkey, sheep, goat or pig, horns or skins, or any kind of vehicle, wagon gear, trek, gear, or harness, without having first obtained the special permission in writing of a District Commissioner, Civil Commissioner, or other person thereto authorized by me; and such animals, horses, skins, vehicles, gear, or harness, shall enter the Territory of North-Western Rhodesia at such place, and under such conditions as regards quarantine and disinfection, as shall be ordered by the person issuing such written permission as is above described.
4. Whenever any conditions as to quarantine, isolation, disinfection or otherwise, are imposed, such conditions shall be fulfilled at the sole risk and expense of the owner, consignee, or other person concerned.
5. All live stock imported into the Territory by rail by way of Victoria Falls and Livingstone, shall be inspected at Livingstone Station, and, whenever disinfection is ordered, shall be disinfected at that Station.
6. In the case of live stock consigned to any point on the railway line north of Livingstone Station, the officer authorized to issue the written permission aforesaid shall further order the disinfection of the truck or horse-box in which such stock is being conveyed. Such disinfection shall be carried out at the expense of the owner or consignee of the stock, or other person concerned therein.
7. Consignors and importers of live stock shall give not less than seven days' notice of the arrival of such stock at Livingstone Station. Such notice shall be given to the Civil Commissioner, Livingstone, or to such other official as may hereafter be appointed.

ROBERT CODRINGTON,
Administrator.

By command of His Honour the Administrator,

HENRY RANGELEY,
Acting Secretary.

Administrator's Office,
Livingstone, North-Western Rhodesia,
30th September, 1907.

Ordinance No. 1, 1908.]

[Promulgated 18th December, 1908.

SOUTHERN RHODESIA.

AN ORDINANCE TO FURTHER AMEND THE LAW WITH REFERENCE TO THE
BRANDING OF STOCK.

BE IT ENACTED by the Administrator of Southern Rhodesia, with the advice and consent of the Legislative Council thereof, as follows:—

1. Sections 7, 8, 9, 10 and 13 of "The Brands Ordinance, 1900" (hereinafter referred to as the said Ordinance), and so much of any other law as is repugnant to or inconsistent with the provisions of this Ordinance are hereby repealed; but such repeal shall not be taken to affect the validity of any brand duly registered at the time of coming into operation of this Ordinance.

2. No person shall have the right of claiming to have any special form or design of brand allotted to him, but any person requiring a brand shall, on application, and on payment of the prescribed fee, have a brand allotted to him by the Registrar.

3. Section 23 of the said Ordinance is hereby amended by the addition of the following sub-section:—

“(6) The system and procedure to be observed by the Registrar in allotting brands.”

4. This Ordinance may be cited for all purposes as the “Brands Ordinance Amendment Ordinance, 1908.”

Above is the text of the Ordinance passed during the last Session of the Legislative Council, the object of the Ordinance being to so amend the Brands Ordinance, 1900, as to permit of the system of branding known as the “Three piece system.”

Following are the regulations promulgated under the Ordinance, and which brought the new system of registration into operation on 7th January, 1909

No. 391* of 1908.

Department of Agriculture,
Administrator's Office,
Salisbury, 17th December, 1908.

BRANDS ORDINANCE AMENDMENT ORDINANCE, 1908.

UNDER and by virtue of the powers vested in me by “The Brands Ordinance, 1900,” as amended by the “Brands Ordinance Amendment Ordinance, 1908,” I do hereby cancel and withdraw the Regulations published under Government Notice No. 204 of 1900, and declare the following shall be in force in lieu thereof, from and after the 7th January, 1909:—

1. The Registrar of Brands shall have his office in the Agricultural Department. With the exception of the Magistrate of Salisbury, the Magistrate in each district of Southern Rhodesia, and the Assistant Magistrate in each sub-district, shall be a deputy Registrar of Brands for the magisterial district or sub-district to which he is appointed. The offices of the Deputy Registrars of Brands shall be the offices of the several Magistrates.

2. (a) The form of application for registration of a brand shall be that marked “A” in the schedule attached to this Notice.

(b) The form of a certificate of registration shall be that marked “B” in the said schedule.

(c) The form of a transfer of a brand from one registered proprietor to another shall be that marked “C” in the said schedule.

(d) The form of a certificate of such transfer shall be that marked “D” in the said schedule.

3. Each Deputy Registrar of Brands shall keep a register, in the form of Schedule “E” hereto, of all brands allotted within his district under the provisions of the Ordinance.

4. Save as hereinafter provided, every registered brand shall consist of two letters and a numeral of plain and uniform pattern; and the first of the letters shall indicate the magisterial district or sub-district in which the holding is situate on which the brand is to be used, and shall be placed above the numeral and letter comprising the brand, so as to be in triangular form.

5. One brand and no more shall be allotted to any person in one magisterial district or sub-district.

6. The size of the characters branded on stock shall not be more than three inches in height nor more than two inches in width.

7. An applicant for a brand shall be allotted the next vacant brand assigned to the district in which he is located, as set forth in Schedule “F” hereof.

8. Each Deputy Registrar shall keep a list of brands assigned to his district, for the inspection of applicants for brands.

9. There shall be payable to the Registrar or Deputy Registrar:—

(a) For every separate registration of a brand, 5s.

(b) For every transfer of a brand, 5s.

10. All brands shall be imprinted on stock as follows :—

(a) In the case of horses, mules or donkeys, the first brand shall be imprinted either on the near side of the neck or near rump, and any second or subsequent brand shall (where there is sufficient space for such purpose) be imprinted on the same part of such animal, and at a distance of not less than one and a half inches from and directly underneath last imprint, according to the table herein set forth.

Where there is not sufficient space for the purpose, then such second or subsequent brand shall be imprinted on the part of such animal next in order, according to the following table :—

- i. Off Neck or Rump (or Thigh) ;
- ii. Near Shoulder (or Top of Arm) ;
- iii. Off Shoulder (or Top of Arm).

(b) In the case of cattle, the first brand shall be imprinted on the near rump or thigh of the animal, and every second or subsequent brand shall be imprinted at a distance of not less than one and a half inches from and directly underneath the brand last imprinted, according to the following table :—

- i. Off Rump (or Thigh) ;
- ii. Near Shoulder (or Top of Arm) ;
- iii. Off Shoulder (or Top of Arm).

(c) In the case of sheep and goats, the first brand shall be imprinted on the near shoulder, and all second or subsequent brands in the following order :—

- i. On Near Side or Ribs ;
- ii. Near Rump (or Thigh) ;
- iii. Off Shoulder ;
- iv. Off Side or Ribs ;
- v. Off Rump (or Thigh).

(d) In the case of ostriches :—

- i. On near Thigh ;
- ii. On Off Thigh.

11. Each proprietor of a registered brand shall have the right, in addition to imprinting his brand in the manner above prescribed, to place such brand on the ears of such animals by punching, tattooing or ear-rivets.

12. The owner of any brand may surrender the same, and the Registrar shall, on receipt of notice thereof, cancel the registration by notice in the *Gazette*.

13. When it appears to the Registrar, upon the report of a Deputy Registrar, Native Commissioner, or Cattle Inspector, that a registered brand is not in use, he may cause notice thereof to be given to the owner thereof, calling upon him to show cause why the same should not be cancelled ; if cause is not shown to the satisfaction of the Registrar within six months after such notice, he may cancel the brand.

14. No brand which has been surrendered or cancelled shall be re-allotted until a period of five years from such surrender or cancellation has elapsed.

15. The Registrar shall, at the end of each quarter in every year, or as soon thereafter as possible, transmit for publication in the *Gazette* a statement, in the form of Schedule "E" hereto, of all brands registered under the Ordinance up to the last day of such quarter.

16. The Registrar shall allot a brand to every public pound already or hereafter to be established, and shall register the same.

The first character of every such brand shall be a diamond, and the second the dominant letter of the magisterial district or sub-district, and the third a numeral, the dominant letter to be placed above the diamond and numeral so as to form a triangle ; and the Poundmaster shall, on sale of any stock impounded therein, brand the same with such brand on the portions and in

the order prescribed in these Regulations, to show that the said brand is the last brand at that time imprinted on such stock; and any Poundmaster who shall fail to comply with the provisions of this section shall on conviction be liable to a fine not exceeding £5.

W. H. MILTON,
Administrator

By command of His Honour the Administrator in Council

P. D. L. FYNN
Acting Treasurer.

SCHEDULE A.

APPLICATION FOR A BRAND

Brands Ordinance, 1900, and Brands Ordinance Amendment Ordinance, 1908.

To the Deputy Registrar,

Herewith ^{we}_I enclose the prescribed fee of.....and request that you will allot and register a brand for the holding or place mentioned in the Schedule below.

Name of Applicant in full.	Address.	District or Sub-district for which Brand is required.

Date.....

Applicant.

SCHEDULE B.

Brands Ordinance, 1900, and Brands Ordinance Amendment Ordinance, 1908.

No.....

.....day of.....

I hereby certify that the brand shown in the diagram at foot hereof was duly registered on the date and as the brand of the person(s) therein set forth in the schedule hereto.

Owner(s)' full Name.	Address.	District for which Brand is registered.	Date of Registration.

Fee paid.....

Diagram of Brand.....

(Signed).....

Registrar of Brands

SCHEDULE C.

MEMORANDUM OF TRANSFER OF BRAND.

Brands Ordinance, 1900, and Brands Ordinance Amendment Ordinance, 1908.

We,being the registered owner(s) of the
 I,brand set forth in the schedule hereto, do hereby agree to the transfer of the
 same toofand hereby
 request that the same may be registered accordingly. And ^{we} I
, the second undersigned, do also hereby agree to the said
 transfer and enclose the fee therefor (..... Shillings).

Witness.....Owner.

Address.....

Witness.....Transferee.

Address.....

Brand.	Name and Address of Registered Owner of Brand.	District where Brand is Registered.	No. of Certificate.	Date of Registration.

SCHEDULE D.

CERTIFICATE OF TRANSFER.

Brands Ordinance, 1900, and Brands Ordinance Amendment Ordinance, 1908.

No.....Date.....

This is to certify that the brand shown at the foot hereof was this day
 transferred from.....of
 to.....of

Fee paid £.....Dated this.....day of

Registrar of Brands.

Brand.	Transferee's Name and Address.	District where Brand is to be used.	No. of Certificate.	Date of Registration.

SCHEDULE E.

DISTRICT BRANDS REGISTER.

Brands Ordinance, 1900, and Brands Ordinance Amendment Ordinance, 1908.

Name of Registered Owner.	Address.	District for which Brand is Registered.	Particulars of Brand.		
			Brand Allotted.	No. of Certificate.	Date of Registration.

SCHEDULE F.

Brands allotted to different magisterial districts and sub-districts.

Dominant Letter.	District denoted.				Brands Series.	
A	Salisbury	..	..	..	A 2 A	and variations.
					A	
					A 2	"
B	Bulawayo	..	..	..	B 2 A	"
					B	
					A 2	"
C	Charter	..	..	..	C 2 A	"
					C	
					A 2	"
E	Belingwe	..	..	..	E 2 A	"
	(Sub-district of Bulawayo)	..	..	..	E	"
					A 2	"
F	Mangwendi	..	..	..	F 2 A	"
	(Sub-district of Salisbury)	..	..	..	F	"
					A 2	"
G	Gwelo	..	..	..	G 2 A	"
					G	
					A 2	"
H	Hartley	..	..	..	H 2 A	"
					H	
					A 2	"
J	Bubi	..	..	..	J 2 A	"
	(Sub-district of Bulawayo)	..	..	..	J	"
					A 2	"
K	Wankie	..	..	..	K 2 A	"
	(Sub-district of Bulawayo)	..	..	..	K	"
					A 2	"

Dominant Letter.	District denoted.	Brands Series
L	Lomagondi	L and variations, 2 A
	(Sub-district of Salisbury)	L A 2
M	Mazoe	M 2 A
	(Sub-district of Salisbury)	M A 2
N	Bulilima-Mangwe	N 2 A
	(Sub-district of Bulawayo)	N A 2
P	Mafungabusi	P 2 A
	(Sub-district of Gwelo)	P A 2
R	Chibi	R 2 A
	(Sub-district of Victoria)	R A 2
S	Melsetter	S 2 A
		S A 2
T	Tuli	T 2 A
		T A 2
U	Umtali	U 2 A
		U A 2
V	Victoria	V 2 A
		V A 2
W	Gwanda	W 2 A
	(Sub-district of Bulawayo)	W A 2
X	Makoni	X 2 A
	(Sub-district of Umtali)	X A 2

NOTE.—Reserved for distribution (if required), all brands with the numerals as dominants, thus—2 AA to 9 ZZ. Permanently reserved, the letters O and I (to be used exclusively as numerals). The letters O, Y and Z are unallotted. The letter D reserved for Government Departments.

No. 51 of 1909.

Department of Agriculture,
Administrator's Office,

Salisbury, 25th March, 1909.

BRANDS ORDINANCE AMENDMENT ORDINANCE, 1908.

UNDER and by virtue of the powers vested in me by the "Brands Ordinance 1900," as amended by the "Brands Ordinance Amendment Ordinance, 1908," I do hereby declare that the following districts have been added to

those shown in Schedule F of Government Notice No. 391 of 1908, and brands allotted as under :—

Dominant Letter or Numeral.	District Denoted.	Brands Series.
Y	Inyanga	Y 2A and variations Y A2
Z	Insiza	Z 2A and variations Z A2
2	Matopo	2 AA and variations 2 ZZ
Q	Selukwe	Q 2A and variations Q A2

W. H. MILTON,
Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,
Treasurer.

No. 52 of 1909.

Department of Agriculture,
Administrator's Office,
Salisbury, 25th March, 1909.

CONDITIONS UNDER WHICH GOVERNMENT VETERINARY SURGEONS' SERVICES ARE AVAILABLE TO THE PUBLIC.

1. **O**N and after 1st April, 1909, the services of Government Veterinary Surgeons will be available to the public, free of charge for the following purposes only :—

(1) Attending and giving professional advice in connection with the following diseases, viz. :—Anthrax, Contagious abortion, East Coast Fever, Epizootic Lymphangitis, Foot and Mouth Disease, Farcy, Foot-rot, Heartwater, Glanders, Intestinal parasites amongst sheep and goats, Liver Disease, Lung-sickness, Osteo Porosis, Malarial Catarrhal Fever (blue tongue), Rabies, Redwater, Rinderpest, Scabies, Sponziekte (quarter evil), Swine Fever, and any other diseases which way in future be scheduled in terms of section 3 sub-section 18 of the "Animals Diseases Consolidation Ordinance, 1906." Attending to cases of disease amongst live stock which, though not of a contagious or infectious character, may be of general public importance.

(2) Applying tests in regard to Glanders, Tuberculosis, or any other disease against the introduction or spread of which tests are applied under regulations.

(3) Inoculations against the following diseases —

Horsesickness, Lung-sickness, Anthrax, Quarter Evil, Redwater, Malarial Catarrhal Fever (blue tongue). A fee to cover the cost of serum and virus will be charged.

2. The following charges shall be made and payable for services rendered by the Government Veterinary Surgeons in other cases, viz. :—

- | | | | |
|---|---|----|----|
| (1) For every professional visit within three miles of his office or residence | £ | s. | d. |
| | 0 | 5 | 0 |
| (2) For every professional visit beyond such distance.. .. . | 0 | 10 | 6 |
| plus an additional charge of 2s. 6d. per hour whilst engaged in such visits or £2 2s. a day of 24 hours ; | | | |
| (3) For advice given at the Veterinary Surgeon's office, for each animal, per visit | 0 | 2 | 6 |
| (4) The following to be charged in addition to visiting fees :— | | | |
| a. For every examination as to soundness, each | 1 | 1 | 0 |
| b. For castration, horses, each | 1 | 1 | 0 |
| c. „ bulls „ | 0 | 5 | 0 |
| d. „ donkeys „ | 0 | 10 | 6 |
| e. For parturition cases, mares, each | 2 | 2 | 0 |
| f. For parturition cases, cows, each | 1 | 1 | 0 |
| g. For other operations, according to nature, from 5s. to £2 2s. | | | |

3. Double the above fees will be payable for services rendered on Sundays, public holidays, and between the hours of 7 p.m. and 7 a.m.

4. Applicants for the services of Government veterinary surgeons must at their own cost provide the necessary transport for the conveyance of these officers from, and back to, their residence or nearest railway station.

5. Farmers and owners of stock throughout the country frequently telegraph for a Government veterinary surgeon to be sent to attend an animal which has been taken seriously ill. It is rarely possible to comply with these requests at once, as the veterinary surgeon may be engaged on duty which he cannot leave, or is at such a distance from where his services are required that he can hardly be expected to arrive in time to be of any service in an urgent case. Hence much valuable time is wasted, the owner of the animal is dissatisfied, and the veterinary staff discredited. To obviate this, in all cases where veterinary advice and assistance are required, the owner should telegraph to "Veteran," Salisbury, with prepaid reply, the nature of the complaint that the animal is suffering from, giving as full and accurate a description of the symptoms as possible. This will enable the Chief Veterinary Surgeon to telegraph advice at once and state whether he is able to arrange for veterinary attendance on the case or not, and save valuable time, which is always of importance in acute cases.

6. The services of Government veterinary surgeons will only be available for private work with the consent of such officers, and when such work does not interfere with their official duties, or when the services of a private practitioner are not available.

7. As the arrangement of allowing Government veterinary surgeons to attend to private cases is intended purely for the benefit of farmers and stock-owners who may wish to obtain professional advice, no responsibility whatever will be accepted for any loss of stock, etc., which may result from the negligent treatment or advice, or wilful default, of any Government veterinary surgeon.

8. All fees collected in terms of these Regulations are payable to the Treasury through the local Receiver of Revenue.

W. H. MILTON,
Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,
Treasurer.

No. 108 of 1909.

Department of Agriculture,
Administrator's Office,

Salisbury, 20th May, 1909.

UNDER and by virtue of the powers in me vested by the "Fencing Ordinance, 1904," it is hereby notified for general information that the provisions of the said Ordinance shall, in terms of sections 3 and 4, Part I., be brought into force and applied to the following area, as from the 1st day of June, 1909.

DESCRIPTION OF AREA.

That portion of the native district of Bubi, Matabeleland, within the following boundaries :—

From the S.W. beacon of Sevui (Vincent's) Farm on the Khami River, along the W. and N. boundaries of this farm, thence along the W. boundaries of Steven's and Rochester Farms to the N.W. beacon of Rochester, thence along the N. boundary to its junction with the Umguzan Block, thence along the W. boundary of this block to the Umgusa River, thence up the latter till it strikes the N.W. boundary of "Galeta's Kraal," thence in a northerly direction along the N.W. border of this farm and the outspan, thence along the N.E. border of this outspan and Shiloh, and the E. boundaries of Shiloh and Paddy's Valley, and the N.E. boundary of Sailor's Hope to the farm Dingaan, along the N. boundaries of Dingaan, Hambagahele, Gravesend Extension and the N.W. boundary of Induba to the Bembesi River, thence along this river to the S.W. beacon of Battlefield Block, thence along that portion of the S. and S.W. boundaries of the native district of Bubi to the S.W. beacon of Sevui Farm.

W. H. MILTON,

Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,

Treasurer.

No. 136 of 1909.

Department of Agriculture,
Administrator's Office,

Salisbury, 1st July, 1909.

FENCING ORDINANCE, 1904.

UNDER and by virtue of the powers in me vested by section 26 of the "Fencing Ordinance, 1904," I do hereby declare that the subjoined Regulations, providing for the erection and closing of gates, shall be applied in any district or area coming under the provisions of the said Ordinance.

1. On and after the "Fencing Ordinance of 1904" becoming operative in any district or area, any owner of land erecting a dividing fence under the provisions of the Ordinance within such area, shall erect swing gates on all existing private or public roads crossed by such fence.

2. The gate and its appurtenances shall be of such size and description as the Civil Commissioner of the district shall fix and determine.

3. A gate shall not be hung on any straining post, but shall be hung on strong posts erected for the purpose, in such a manner as to allow of it being swung evenly on its hinges, clear of the road, and inwards and outwards.

4. Every person or traveller after passing through a gate, shall properly close such gate, according to the provision made for the purpose.

5. No livestock enclosed in a dividing fence shall be allowed to stray through a gate while any person or traveller may be passing through.

6. Any person contravening any of the above Regulations shall be liable to a penalty not exceeding ten pounds for each offence, or in default of payment of the fine imposed, to imprisonment for any period not exceeding one month, with or without hard labour.

F. J. NEWTON,
Acting Administrator.

By command of His Honour the Acting Administrator in Council.

P. D. L. FYNN,
For Treasurer.

No. 115 of 1909.

Administrator's Office,
Salisbury, 3rd June, 1909.

ESTABLISHMENT OF A POUND AT FIGTREE.

UNDER and by virtue of the powers vested in me by section 5 of the "Pounds and Trespasses Ordinance, 1903," I do hereby declare and make known that, at the request of the Civil Commissioner, Bulawayo, a pound has been established on the farm "Leighwoods," near Figtree, in the magisterial district of Bulawayo, and that the said pound shall be available for the public from the 1st day of July, 1909.

W. H. MILTON,
Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,
Treasurer.

No. 127 of 1909.

Department of Agriculture,
Administrator's Office,
Salisbury, 10th June, 1909.

ESTABLISHMENT OF A POUND AT HARTLEY.

UNDER and by virtue of the powers vested in me by section 5 of the "Pounds and Trespasses Ordinance, 1903," I do hereby declare and make known that, at the request of the Civil Commissioner, Hartley, a pound has been established at a place on the commonage of Hartley township adjoining the north-west side of "Stewart's Kopje," in the magisterial district of Hartley, and that the said pound shall be available for the public from the 1st day of July, 1909.

F. J. NEWTON,
Acting Administrator.

By command of His Honour the Acting Administrator in Council.

P. D. L. FYNN,
For Treasurer.

Departmental Notices.

As Assistant Magistrates have not been appointed to all the Districts and Sub-districts to which a series of Brands have been allotted, the registration of Brands in such Districts will be carried out by the Officers enumerated in the following notice, which was published for the information of stock-breeders :

BRANDS ORDINANCE AMENDMENT ORDINANCE, 1908.

With reference to the regulations published under Government Notice No. 391 of 1908, it is hereby notified for public information that the undermentioned Officers are the Deputy Registrars and Registrars of Brands for the Districts or Sub-districts set opposite their names.

Districts and Sub-districts.	Deputy Registrar.
Bubi	Assistant Magistrate, Inyati.
Bulalima Mangwe	Assistant Magistrate, Tegwani.
Charter... ..	Magistrate, Enkeldoorn.
Chibi	Magistrate, Victoria.
Mafungabusi	Magistrate, Bulawayo.
Makoni... ..	Magistrate, Umtali.
Mangwendi	Registrar of Brands, Salisbury.
Wankie	Magistrate, Bulawayo.
Tuli... ..	Magistrate, Gwanda.

For the information and guidance of Stockowners the following notes and directions are published :—

1. All brands registered under the old system prior to the 7th January, 1909, will continue to be current, except in cases where the registered owners have ceased to use them; all obsolete brands will in due course be cancelled.

2. Printed forms of application for brands have been supplied to every Deputy Registrar of Brands, *i.e.*, to the Magistrates and Assistant Magistrates of the Districts and Sub-districts to which a series of brands have been allotted.

Applicants for brands should fill in the form, and forward, with the registration fee, to the Deputy Registrar of the District for which the brand is required.

On receipt of the application the Deputy Registrar will allot the next brand vacant on the list, and will issue a

Registration Certificate, after which the applicant will be entitled to the exclusive use of the brand.

3. All brands will consist of two letters of the alphabet and a numeral of plain and uniform pattern, and will be in the form of a triangle, the dominant letter of the District forming the apex, and a numeral and letter forming the base, thus for the district of Salisbury the first brand allotted would be "A"

2 A

4. The maximum size of a brand is fixed at three inches in height, and two inches in width; the object of limiting the size of brand is to prevent the use of brands which make an unsightly impression, causing unnecessary pain to the animal, and damage to the hide.

Stockowners are urged to make their brands as small as possible consistent with clearness, and with as fine a burning edge as possible, to insure a sharp, clear impression on the hide.

5. Rules for branding.

These are clearly set forth in Section 10 of the regulations which has been printed on the back of the Registration Certificate for the guidance of owners.

The order of placing the brand as laid down in the regulations must be strictly followed.

The object in prescribing the order in which brands are placed on an animal is to insure that the owner of lost, straying, or stolen stock being readily traced. If brands are placed indiscriminately on an animal which has changed hands frequently, it is not possible to trace the registered owner without considerable delay ensuing, whereas if brands are impressed in proper rotation, the owner of the brand last impressed on the animal can be readily traced.

6. The owners of registered brands have the right to, in addition to imprinting their brands in the order prescribed, place such brand on the ears of animals by punching, tattooing, or ear-rivets.

7. Registered owners of brands have the right to surrender their brands, and brands surrendered will be cancelled. In cases where it is found that registered brands are not being used, the Registrar may call upon the owner to show cause why it should not be cancelled, and if cause is not shown, such brand may be cancelled. No brand which has been surrendered or cancelled can be re-allotted for 5 years from date of cancellation.

8. With a view of ensuring accuracy and uniformity in the making of branding irons, special arrangements will be made with local firms of blacksmiths to supply branding irons at a contract price.

An applicant for a brand may, on depositing the cost of branding iron, receive from the Deputy Registrar a requisition for a branding iron to be supplied by the contractor.

DESTRUCTION OF WILD CARNIVORA, ETC.

It is hereby notified for public information that the rewards for the destruction of wild carnivora, etc., will be paid only on the scale and conditions herein set forth.

2. Rewards will be paid as follows:—

For each Lion	£3	0	0
„ Leopard	1	0	0
„ Cheetah	1	0	0
„ Wild Dog	0	10	0
„ Crocodile, of not less than 3 ft. in length	0	10	0

3. Rewards will be paid to Europeans by the Magistrate or Native Commissioner, and to natives by the Native Commissioner of the district, within three months of the date upon which the animal is killed, on a declaration made in the form of the annexure hereto.

4. In proof of destruction, applicants for rewards will be required to produce and surrender, in the case of Lion, Leopard or Cheetah, the skin with the tail not severed, and in the case of Crocodile or Wild Dog, the unskinned head.

5. The skins and heads of animals for which rewards have been paid shall be the property of the Government, and shall be disposed of in such manner as may be decided on.

GOVERNMENT STALLION FOR PUBLIC STUD.

The Stallion “Robber Knight” has been returned to Bulawayo, where his services for a limited number of mares will be available until further notice, free of charge.

Applications, giving full particulars of the mares to be served, should be addressed to the Veterinary Department, Bulawayo, where further particulars can be obtained.

The owners of mares brought to stud will have to make all necessary arrangements for attendance, stabling, and feeding of their animals, as the Department can take no responsibility whatever.

As the number of mares which can be served is very limited, the Veterinary Officer in charge is instructed to refuse service if any mare submitted is suffering from any hereditary disease, or is of an inferior type.

Pedigree.—"Robber Knight" by "Sir Hugo," *ex* "Fritters" by "St. Simon."

The Chief Veterinary Surgeon requests that all Official Correspondence be addressed to the

CHIEF VETERINARY SURGEON,
BOX 123,
SALISBURY.

Communications referring to various Departmental matters are frequently addressed to him personally, with the result that they remain unopened and unattended to in case he is absent on duty.

TOBACCO SEED.

The following varieties of tobacco seed may now be obtained by planters from this Department at the prices named, which include postage. Orders must be accompanied by remittance.

	per oz.	
	s.	d.
Turkish, Yenedje, Xanthi, Aya Solouk	1	6
Turkish, Cavalla	1	6

TOBACCO SEED BED COVERING.

A large supply of calico for covering tobacco seed is now available. It can be obtained from the Anglo African Trading Company at Salisbury, Bulawayo, and Gwelo. Price 2½d. per square yard.

RHODESIA TURKISH TOBACCO.

The Bulawayo Warehouse asks us to urge upon growers the importance of properly curing their leaf, and to see that the mid-rib is thoroughly dried.

The leaf should preferably be graded and baled "Caloupe" style (*i.e.*, on strings) by the growers on the farm. Where they are unable to do this properly the leaf

should be sent in on strings, in boxes or bales, under very slight pressure.

The leaf should be in good condition as regards moisture, so as to enable it to be handled without breakage.

STRYCHNINE.

Stockowners can obtain a limited quantity of strychnine for the destruction of carnivora at a cost of 3s. 6d. per ounce.

Publications obtained at the Agricultural Department, Salisbury :—

CULTURE OF TOBACCO.

This book, by G. M. Odium, containing the History of the Tobacco Plant from seed to manufacture, can be obtained from this Department. Price 1s., post free 1s. 4d.

“Tree Culture in Southern Rhodesia.” By P. B. S. Wrey, A.M.I.C.E. Price 9d.

“Farm Science.” Issued by the Harvester Co., of America.

A complete file of “The Rhodesian Agricultural Journal” since its commencement; particulars regarding sale of which may be obtained from the Editor.

Copies of “Money in Lucerne” may be obtained from the Agricultural Department, Salisbury, at the price of 1s. each; remittance to accompany order.

MULBERRY CUTTINGS.

Mulberry Cuttings, *f.o.r.* Salisbury 5s. per 100.—Apply, Manager Experimental Nursery, Salisbury.

INQUIRIES.

Farmers are reminded that in all matters relating to agricultural practice, advice is given by the Department in response to inquiries made by them individually.

In particular subjects, such as disease among crops, insect pests and the like, specimens should be sent to the Department, together with as full details as possible.

Advice will be given to farmers who want farm machinery and appliances, seeds, trees, etc.

All communications should be addressed in the first instance to the Director of Agriculture, Salisbury.

NOTICE.

The Manager of the Beira, Mashonaland, and Rhodesia Railways informs us that, on and after the 1st of June, 1909, until further notice, irrigation plant and machinery will be carried at half third class rates, when the consignment is accompanied by a declaration from the consignee or the consignor, as the case may be, that the plant or machinery is actually to be used for irrigation purposes.

DISPOSAL OF SEEDS.

All farmers and others who have surplus supplies of good quality locally grown farm seeds of any description are invited to communicate with the Government Agriculturalist and Botanist, Department of Agriculture, Salisbury, stating what quantities are available for sale, and price, F.O.R. nearest station. In all cases representative samples of the grain must accompany the letter, but need not exceed two ounces in weight.

The Agricultural Department is continually receiving enquiries as to where the seed can be obtained, and it is hoped that by the above means growers of reliable seed may be brought into touch with one another.

It must be clearly understood, however, that beyond recommending sources of supply, the Department cannot take any further part in the transactions.

POISONOUS PLANTS.

It is of great importance that as soon as possible a study should be made of those plants found in Southern Rhodesia which are poisonous or deleterious to small or large stock. Farmers and others who have known or suspected poisonous plants on their property, are requested to communicate with the Government Agriculturalist and Botanist, Department of Agriculture, Salisbury, at the same time forwarding specimens of the plant, including stem, leaves, flowers, and where possible fruit. Any particulars regarding the habits of the plant, the parts of it which are supposed to be poisonous, etc., will be welcomed, and in return the Department will supply all available information regarding the plants.

SOUTHERN RHODESIA FENCING ORDINANCE, 1904.

(Compiled.)

The procedure necessary to obtain the enactment of the fencing ordinance of 1904 briefly stated is as follows. The owners of landed property in any district desirous of having the ordinance brought into operation should first frame a petition in the form set forth below.

PETITION IN TERMS OF SECTION 4 OF THE FENCING ORDINANCE, 1904.

District

Date

To the Director of Agriculture, Salisbury.

Sir,—We, the undersigned, being residents of Southern Rhodesia and the owners of the landed property situated in the District of, Province of as described below, do hereby beg and request that His Honour the Administrator may be pleased, in terms of Section 4 of the Fencing Ordinance of 1904, to put into force and apply the provisions of Part I of the said Ordinance to the undermentioned area.

Description of Area:—

That District, or that portion of the District of (as the case may be) within the following boundaries. From the beacon of farm along the and boundaries of this farm, thence along the boundaries of farms, etc., etc., etc.

Signature.	Residence.	Name or Description of Landed Property owned.

This petition should be signed by at least two thirds of the owners resident in Southern Rhodesia (not necessarily resident on the land they own).

A notification is to be issued in the "Government Gazette," and one or more newspapers (if any) published and circularising within the District at least once a week for three consecutive weeks, on the lines of the following form. If there is no newspaper published in the District the Notice should also appear in the paper published in the nearest District.

NOTICE.

FENCING ORDINANCE, 1904.

Notice is hereby given that it is the intention of owners of landed property situated in the District of as described below, to petition His Honour the Administrator to bring into force and apply the provisions of Part I of the Fencing Ordinance of 1904, to the undermentioned area:—

Description of Area:—

That District, or that portion of the District of (as the case may be) within the following boundaries. From the beacon of the farm along the boundaries of this farm, thence along the boundaries of the farms etc., etc., etc.

Dated at, Signed this day of 1909, for self and Co-petitioners.

As soon as these formalities have been complied with, the petition, accompanied by a copy of the notice and a sketch map of the district or area referred to, should be forwarded under a covering letter to the Director of Agriculture, Salisbury, requesting him to submit to and recommend the same for the consideration of His Honour the Administrator.

The covering letter should state the dates of "Gazette" and newspapers in which the notice appeared, and it should be signed by an owner or agent representing the petitioners to whom all subsequent correspondence on the subject will be addressed by the Director of Agriculture.

When the proposal has received the sanction of His Honour the Administrator, it then becomes competent for any farmer within the area to require his neighbours to

share the cost of fences erected on mutual boundaries. In the case of disagreement as to ways and means, the matter is to be settled by arbitration. In certain cases payments may be made by instalments.

Owners of land adjoining an area on which the fencing Ordinance is duly proclaimed, must contribute towards the cost of fences on that boundary. Special provision exists for the cases of absent owners, tenants, and of tenants with a right to purchase. Adjacent properties are responsible jointly for necessary repairs to their common fences.

The Ordinance does not affect the case of existing fences.

Copies of the Fencing Ordinance No. 18 of 1904 may be obtained from the Controller of Printing and Stationery, Salisbury.

Editorial Notices.

Original subscribers to the *Journal*, who have complete sets of the earlier numbers to dispose of, are requested to communicate with this office, as numerous enquiries for the first and second volumes, now out of print, have been received.

The *Journal* is issued bi-monthly, and the subscription is 5s. per annum, payable in advance. All communications relating thereto should be addressed to the Director of Agriculture, Agricultural Department, Salisbury, and if an answer is required in the pages of the *Journal*, should reach this office not later than the 15th of the month preceding publication. Subscribers are requested to notify immediately the non-delivery of the *Journal*.

Advertisements will be accepted from *bona fide* farmers wishing to effect sale, purchase or exchange of produce, live stock, or farm implements, at a minimum charge of 2s. 6d. per insertion of 20 words. Extra words will be charged for at the rate of 1s. for every ten words.

Applications for Advertisement Rates to be made to J. Kapnek, Sole Advertisement Contractor for "Rhodesian Agricultural Journal," P.O. Box 91, Salisbury and Box 45 Bulawayo.

ADVERTISEMENTS.

Farmer's Advertisements.

PERSIAN Ram Lambs for sale, from pure bred stock imported from Cape Colony. Apply H. E. Light, c/o. Meikle Bros., Salisbury.

FOR SALE.

PERSIAN RAM LAMBS.

A limited number of three quarter bred acclimatised Ram Lambs for disposal, eight months old; £2 each, Marandella Station.—Apply H. Hay Scorrer, Land Settlement Farm, Marandella.

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Orders are being booked for young pure-bred Friesland Bulls bred from pedigree sire and dam.

These Bulls are bred and reared on the Farm Pomona, near Salisbury, a Redwater area, and thus farmers may obtain highly bred animals without the usual risks attending importation and immunising.

Particulars of pedigree and prices will be obtained on application to Messrs. MacLaurin Bros., Salisbury.

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Three Pure Bred Africander Bulls for Sale, two 4-tooth and one 6-tooth respectively.—R. Bliss, Ayrshire.

PERSIAN SHEEP RAMS.

These Rams are all picked from our well-known Longhope Stud; winners of over 100 prizes—Port Elizabeth, Rosebank, and Bloemfontein.

I have now a portion of this stud on my farm, near Penhalonga, Rhodesia, and am open to take orders for Rams now on hand, and also to book for next year. Price, £3 10s. on truck, Umtali.—Apply Douglas Abrahamson, Penhalonga.

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American Mammoth Bronze Turkeys.

Splendid White Leghorn Poultry.

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Silver Grey Dorkings and Plymouth Rocks.

First-Class Pekin and Indian Runner Ducks.

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Fox and Irish Terriers and other Puppies.

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